



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE  
STATE OF CALIFORNIA

**FILED**

11-16-07  
04:59 PM

Order Instituting Rulemaking to Consider	)	
Refinements to and Further Development of	)	Rulemaking 05-12-013
the Commission's Resource Adequacy	)	
Requirements Program	)	(Filed December 15, 2005)
	)	
	)	

---

**PROPOSAL OF CALPINE CORPORATION, CORAL POWER, L.L.C.,  
CONSTELLATION ENERGY COMMODITIES GROUP, INC., CONSTELLATION  
NEWENERGY, INC., J. ARON & COMPANY, PACIFIC GAS AND ELECTRIC  
COMPANY, STRATEGIC ENERGY, L.L.C., ALLIANCE FOR RETAIL ENERGY  
MARKETS, WESTERN POWER TRADING FORUM, MIRANT CALIFORNIA, LLC,  
MIRANT DELTA, LLC, AND MIRANT POTRERO, LLC, APS ENERGY SERVICES,  
AND ENERGY USERS FORUM ("JOINT PARTIES")  
FOR A STANDARDIZED RESOURCE ADEQUACY CONTRACT AND  
ASSOCIATED RESOURCE OBLIGATIONS**

Mark L. Perlis  
Dickstein Shapiro, LLP  
1825 Eye Street, N.W.  
Washington, DC 20006  
Email: perlism@dicksteinshapiro.com

Alexander B. Makler  
Vice President and Managing Counsel  
Linda Sherif  
Senior Regulatory Counsel  
Calpine Corporation  
3875 Hopyard Road, Suite 345  
Pleasanton, CA 94588  
Phone: (925-479-6696  
Email: alexm@calpine.com  
Email: lsherif@calpine.com

On behalf of Joint Parties

Dated: November 16, 2007

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE  
STATE OF CALIFORNIA**

Order Instituting Rulemaking to Consider	)	
Refinements to and Further Development of	)	Rulemaking 05-12-013
the Commission's Resource Adequacy	)	
Requirements Program	)	(Filed December 15, 2005)
	)	
	)	

---

**PROPOSAL OF CALPINE CORPORATION, CORAL POWER, L.L.C.,  
CONSTELLATION ENERGY COMMODITIES GROUP, INC., CONSTELLATION  
NEWENERGY, INC., J. ARON & COMPANY, PACIFIC GAS AND ELECTRIC  
COMPANY, STRATEGIC ENERGY, L.L.C., ALLIANCE FOR RETAIL ENERGY  
MARKETS, WESTERN POWER TRADING FORUM, MIRANT CALIFORNIA, LLC,  
MIRANT DELTA, LLC, AND MIRANT POTRERO, LLC, APS ENERGY SERVICES,  
AND ENERGY USERS FORUM ("JOINT PARTIES")  
FOR A STANDARDIZED RESOURCE ADEQUACY CONTRACT AND  
ASSOCIATED RESOURCE OBLIGATIONS**

The Joint Parties<sup>1</sup> are pleased to submit a consensus proposal (the "Proposal") to standardize Resource Adequacy ("RA") contracts, to simplify the RA contracting process, and to clarify and confirm the enforceability of performance obligations owed by suppliers of RA capacity to the California Independent System Operator ("CAISO"). The intent of the Proposal is consistent with this Commission's policy, expressed in its July 20, 2006 decision, D.06-07-031, and confirmed in the June 21, 2007 decision, D. 07-06-029, to "encourag[e] in the near term a standardized capacity product that is readily tradable, ensures availability of resources to the CAISO at times and places needed for reliability, and comports with RA Program requirements."<sup>2</sup> In its June 21, 2007 decision, the Commission considered an initial version of the Proposal, which was submitted by a diverse group of proponents, and found that "a readily

---

<sup>1</sup> Pursuant to Rule 1.8(d) of the Commission Rules of Practice and Procedure, the undersigned has been authorized by the individual entities joining in this filing to make the submission on their behalf.

<sup>2</sup> D.07-06-029 at p. 50.

available capacity product has significant potential benefits for the success of the RA program.”<sup>3</sup> In that decision, the Commission accepted and endorsed the procedural proposal of proponents to convene stakeholder meetings to report on efforts to develop the Proposal and to make procedural recommendations for any Commission process that may be necessary to implement the proposal. Stakeholder meetings were convened in person or by teleconference, in some of which Commission staff and the CAISO staff participated. As a result of these meetings and discussions, the Joint Parties agreed on the filing of this Proposal and the accompanying recommendations for the Commission and CAISO action that the Joint Parties believe are necessary to implement the Proposal and to contribute to the further success of the RA program.

## **I. BACKGROUND AND OBJECTIVES OF PROPOSAL**

Proponents believe that standardizing the RA product and contract will simplify both the contracting process and the RA administrative and compliance process, without detriment to the reliability objectives of the Commission’s RA program requirements. The fundamental barrier to standardization and simplification today is that procurement by load-serving entities (“LSEs”) is dependent upon RA suppliers’ performance of their operating obligations, while suppliers’ obligations, and concomitant consequences to them for non-performance, have not been prescribed clearly and consistently in Commission orders and the CAISO Tariff. In the existing RA program, LSE’s, as buyers of RA capacity, may be at risk of having to substitute new capacity for sellers’ nonperformance during the pertinent reliability period. Consequently, buyers and sellers must negotiate complex replacement capacity, damages, indemnity, credit and confidentiality provisions as part of a non-standard contract in order to take account of potential non-performance by specific RA units. These non-standard contracts are very time consuming and expensive to negotiate and because of varying contractual structures are neither readily

---

<sup>3</sup> *Id.* at 51.

assignable nor readily tradable. These problems make the RA program less efficient and more costly than it need be. Specifically, LSEs' transfers of RA positions between themselves and the administration and evaluation of RA showings by Commission staff are more difficult than they need to be.

The success of the RA Program depends upon a high-level of performance by RA suppliers, i.e., a high-level of RA capacity availability to the CAISO, and upon clear, reliable and easily workable information being provided to CAISO operators about the RA capacity available to them. The Joint Parties underscore their intent that the RA Program modifications recommended herein retain and strengthen existing performance requirements and expectations. The Proposal is designed to ensure that RA suppliers deliver the reliability services that the CAISO is counting upon. Achieving the desired high level of resource performance is enhanced by clarifying RA suppliers' obligations to the CAISO in the CAISO Tariff and by specifying in the Tariff appropriate penalties for non-performance. The Joint Parties believe that, under the existing RA Program framework, performance by RA suppliers is not promoted by relying upon multiple and varied provisions in bilateral contracts to which the CAISO is not a party specifying the RA suppliers' performance obligations and consequences for non-performance. Standardizing RA suppliers' performance obligations and the penalties for non-performance and making them enforceable by the CAISO under its Tariff is the most efficient means of achieving the desired high level of availability by RA suppliers. This efficiency will not only make the best use of RA capacity supplied to the CAISO; it will also return dividends by enhancing the efficiency of trading and administration of the program for all concerned – regulators, LSEs and suppliers alike.

The key element of the Proposal is, therefore, to make RA capacity suppliers responsible directly to the CAISO, through explicit, enforceable tariff-based performance

obligations. By doing so, the RA capacity product and RA contracts can be standardized, permitting LSEs and other buyers to satisfy fully their RA procurement obligations upon purchasing qualifying RA capacity. RA buyers would no longer need to negotiate and enforce after-the-fact performance obligations through complex contractual provisions, since suppliers' performance will be subject to CAISO Tariff penalties and enforcement; this, in turn, will enable RA capacity to be more freely tradable between LSEs, who will no longer be reliant on contractual risk sharing with RA suppliers regarding performance and penalties. In effect, RA buyers' and sellers' obligations would be bifurcated: LSEs and other buyers would meet their RA obligations by procuring and registering with the CAISO sufficient qualified RA capacity that meets their system and local RA requirements in advance of applicable annual or monthly compliance filing dates; and sellers would then be obligated to the CAISO for their performance, as the CAISO is in the best position to monitor and require performance. This bifurcation of obligations would allow the RA capacity product to be standardized and readily tradable, buyers and sellers would minimize transaction costs, CPUC staff administrative overhead would be reduced, and reliability would be assured by clearly requiring RA capacity suppliers to deliver the expected high-level of performance and availability through the CAISO tariff, subject to monitoring and enforcement by the CAISO, rather than piecemeal through bilateral contracts.

In the sections that follow, the Joint Parties describe with particularity the elements of the Proposal. Implementation of the proposal requires Commission approval of the recommendations herein and CAISO adoption and filing, for approval by the Federal Energy Regulatory Commission ("FERC"), of modifications to Section 40 of the CAISO's MRTU Tariff. As part of this Proposal, the Joint Parties recommend Commission approval of certain elements that would be effectuated by appropriate modifications to the MRTU Tariff. To assist the Commission in its review of these elements, the Joint Parties attach illustrative modifications

to the MRTU Tariff. The Joint Parties recognize that a CAISO stakeholder process will be necessary for review and CAISO approval of the tariff amendments to be submitted to FERC, and the Joint Parties are supportive of that process, intending the illustrative tariff amendments to form the basis of the CAISO stakeholder process, thereby potentially streamlining the process.

The Joint Parties understand that the CAISO intends to conduct such a formal stakeholder process. The Joint Parties further believe that it would be desirable and feasible for the CAISO to conduct that process and to submit MRTU Tariff revisions to FERC in time for parties to begin use of a new standardized RA capacity contract for the 2009 RA compliance year. Underscoring the importance of making an expedited tariff filing with FERC, the Joint Parties commit to work with CAISO staff, in advance of its formal commencement of a stakeholder process, to address its concerns and to develop further consensus among stakeholders regarding specific implementation issues identified by CAISO staff.

The Joint Parties understand that the CAISO has not committed to any implementation schedule, that it faces burdens imposed by multiple projects undertaken in connection with MRTU, and that it intends to prioritize all of its post-MRTU tariff projects. Accordingly, the Joint Parties strongly encourage the Commission to recommend to the CAISO that it accord highest priority to implementation of this Proposal and the expeditious commencement of the stakeholder process to develop the requisite amendments to Section 40 of the MRTU Tariff, if possible by the Summer of 2008, which should enable implementation of the Proposal for the 2009 RA compliance year.<sup>4</sup>

The Joint Parties wish to underscore their intent that this Proposal in no way prejudice this Commission's or the CAISO's future actions regarding further modifications of the RA Program or consideration of centralized or bilateral capacity market mechanisms. The Proposal

---

<sup>4</sup> The Joint Parties also ask this Commission to request that the CAISO not delay its stakeholder prioritization process if full implementation of MRTU is delayed beyond the spring of 2008.

is designed to improve the current RA program, while still being a bridge to any future implementation of a modified bilateral or centralized RA capacity market mechanism, and would be a very beneficial first step to any of these possible future forms of RA structure.<sup>5</sup>

## **II. ELEMENTS OF PROPOSAL**

1. Define the RA capacity product with which LSEs satisfy their RA procurement obligations. Under the existing RA program, LSEs procure qualifying capacity for inclusion in resource adequacy plans, but the LSEs remain responsible for procuring substitute capacity in the event RA suppliers do not perform in subsequent months. Thus, LSEs' RA procurement obligations have been made dependent upon suppliers' on-going operations, even though the LSEs may have no control over suppliers' performance and no other non-RA, on-going involvement with the supplier after the initial procurement of RA capacity. For this reason, suppliers' operational performance has become an on-going contractual duty owed to LSEs to whom RA capacity has been sold. As a result, LSEs and suppliers have been required to negotiate individualized and complex replacement capacity, damages, indemnity, credit and confidentiality provisions in non-standardized RA contracts that are not readily assignable, let alone readily tradable.

As explained in the section above, the essence of the Proposal is to bifurcate LSE procurement of RA capacity, which will be the sole subject of the standardized RA contract, from the imposition on RA resources of reliability-based performance obligations and associated penalties for non-performance, which will be prescribed in and enforced pursuant to the CAISO

---

<sup>5</sup> The Joint Parties have developed this Proposal and the illustrative modifications of MRTU Tariff Section 40 based upon the existing obligations prescribed by the Commission for the RA program. The Joint Parties believe that if the Commission and the CAISO determine to substantially change the contours of the RA program, such changes would require conforming amendments to Section 40. For example, as discussed herein, the Proposal can be initially implemented using the availability penalties incorporated from the Southern California Edison *pro forma* RA contract, which has had widespread use, but the Commission and the CAISO could jointly consider subsequent modifications of availability metrics and penalties for non-performance.

Tariff. Thus, the first element of the Proposal is to prescribe an LSE's RA procurement obligation in terms of procuring and submitting in their RA showings some or all of a resource's net qualifying capacity (and other pertinent locational characteristics as required) as validated by the CAISO. With such procurement and submission, the LSE should be allowed to count the net qualifying capacity toward its RA procurement obligation and include such net qualifying capacity in any compliance showings, regardless of subsequent performance by the RA supplier. The RA supplier will automatically be subject to performance obligations (and the associated penalties for non-performance) prescribed in the CAISO Tariff for the provision of the RA capacity product. Accordingly, the Joint Parties request that the Commission modify the RA program such that LSEs would no longer bear responsibility for replacing non-performing RA capacity and LSEs would be deemed to have fully satisfied their RA procurement obligations by submitting in their RA showings the required quantities of qualifying RA capacity (meeting system, zonal and/or local RA requirements).

2. Codify RA suppliers' obligations in the CAISO Tariff. A key element of the Proposal to bifurcate the obligations found in existing RA capacity contracts is that RA suppliers must be bound by performance obligations (and associated non-performance penalties) prescribed in the CAISO Tariff. Thus, in order to sell net qualifying capacity as an RA capacity product that LSEs can count in their compliance showings, a supplier must register its net qualifying capacity with the CAISO. That registration, in turn, makes the RA Resource subject to performance obligations (and associated non-performance penalties). These obligations would apply to the RA supplier for the duration of the period for which the RA capacity product is sold.

The Joint Parties request that the Commission recognize that a RA supplier's performance obligations would be triggered upon its registration with the CAISO of a sale of net



qualifying capacity and would be applicable for the duration of the annual or monthly period for which the sale is made. The Commission should also request that the CAISO expeditiously initiate a stakeholder process to incorporate the required performance obligations and associated non-performance penalties in Section 40 of the MRTU Tariff. The nature of those performance obligations and associated penalties is discussed further below.<sup>6</sup>

3. Authorize CAISO to validate a unit's net qualifying capacity ("NQC") and fix that amount for an annual compliance period. Commission decisions have made clear that the maximum quantity of RA capacity that may be sold by a resource is its NQC for a compliance period and that such net qualifying capacity must not be double-sold through trading. *See* D.06-07-031 (July 20, 2006 Decision), at §3.11, Category 4-1a, p.31. The Commission has also authorized the sale and use of RA capacity in a size denominated as small as one MW, and for a period of as short a duration as one month. *See id.* at Category 1-2 and 3, p. 29.

Under current Commission decisions, the CAISO certifies the NQC of a resource on an annual basis, based upon existing testing and deliverability analyses and criteria. These requirements are also incorporated in the CAISO Tariff. *See* CAISO Tariff, § 40.4.2. The Joint Parties' Proposal assumes that NQC will be determined using the CAISO's existing testing and deliverability analyses and criteria. However, the Joint Parties further recognize that the basis of calculating NQC, using testing or deliverability analyses and criteria, may be reviewed and revised during Track 2 or subsequently. The Joint Proposal accepts the existing testing and deliverability analyses, but does not preclude the CAISO from proposing tariff modifications to the generic criteria used in such analyses, or the Commission from directing consideration of such modified criteria.<sup>7</sup>

---

<sup>6</sup> *See* paragraphs 8 – 10 below.

<sup>7</sup> Were the CAISO or the Commission to propose adding performance criteria for determining NQC in the future, it would be necessary to consider carefully both the criteria and their interrelationship with penalties that the Proposal would impose on a resource for non-performance. Any changes from existing

In order for RA capacity to be readily tradable in a secondary market, a resource's minimum NQC and its eligibility for use as local RA, or system RA capacity in the annual or monthly compliance showings must be fixed for at least the duration of the compliance period, which, at present, is one year.<sup>8</sup> If a resource's NQC were subject to periodic downward revision during a compliance period, buyers could have no assurance that they could rely upon their purchased RA capacity for use in RA compliance showings. Similarly, if local RA requirements change during a compliance period, a holder of RA capacity would have no certainty as to the eligibility and value of that capacity. Again, it is imperative that once the CAISO validates a resource's NQC for a particular annual compliance period, that such amount be fixed as a minimum quantity and not be subject to downward change for use as RA capacity product over the course of the compliance period.

Thus, the Joint Parties ask the Commission to approve the concept of a NQC certification by the CAISO, made in advance of each Compliance Year, and that such certified amount of NQC be fixed for the duration of that compliance period, as is the current practice.

4. Authorize creation of RA Registry. The Joint Parties further request that the Commission approve the creation and maintenance of a registry (the "RA Registry") that will track all resources' CAISO-validated NQC and record the sale or transfer of such NQC for use as RA capacity. The RA Registry would maintain an annual list of each unit's NQC and whether

---

practices should be codified in the CAISO Tariff. The Joint Parties believe that non-performance and unavailability by a resource in a RA Compliance Year for which the resource has sold RA capacity should be taken into account only once (under the Proposal, such non-performance may result in penalties), and not twice. That is, as a result of non-performance by a resource, there should not be both penalties for the current Compliance Year and a de-rating of the resource's NQC for the current or subsequent Compliance Year (unless ongoing operational limitations were the reason for non-performance in the current Compliance Year, in which case the unit's physical inability to provide the full NQC in the subsequent year would, if confirmed through application of the testing and deliverability criteria, provide an independent reason for de-rating the NQC for the subsequent year).

<sup>8</sup> Special rules could be developed that would allow a resource's NQC to be increased during a compliance period to reflect new investment that is placed into service.

such capacity qualifies for local RA compliance or only system RA compliance, as well as the zone in which the resource delivers. The RA Registry would also record all subsequent conveyances or transfers of a resource's RA capacity, provided that a sale or transfer does not cause the amount of capacity sold with respect to a resource to exceed its NQC. The RA Registry could be developed and operated by an independent entity acceptable to the CAISO and it could be funded by transaction fees or other cost allocation mechanism. The RA Registry could be modeled on existing electronic registries used for renewable energy purposes, such as WREGIS. If an electronic registry is not yet up and running, the CAISO or another entity would need to maintain a data base with all of the information described above in this paragraph. For purposes of this filing, references to the RA Registry apply either to an electronic registry or a centralized data base in which the pertinent information is recorded.

The Joint Parties wish to underscore their view that, although an electronic registry has obvious advantages, its immediate availability is not essential to implementation of the Proposal advanced herein. If there is any delay in development of an acceptable electronic RA Registry, the Proposal could still be implemented using the posting by the CAISO of an NQC annual report on its web site and by notification to the CAISO by resources when they first sell quantities of NQC as RA capacity, thereby triggering applicability to the resource of the MRTU Tariff's performance obligations and associated penalties.

5. Prevent double-selling of RA capacity. The RA Registry should track each conveyance of NQC that is initially sold as RA capacity. In this manner, the RA Registry can prevent any double-selling of NQC and can provide assurances to purchasers that NQC acquired and registered in the RA Registry is eligible for use in a RA compliance showing. Also, upon recording the sale of its NQC as RA capacity, the owner or operator of the resource would be bound to the performance obligations applicable to such capacity, regardless of any subsequent

resale or use of the RA capacity by any LSE in a RA compliance showing.<sup>9</sup> After a resource's initial sale of NQC as RA capacity that is recorded in the RA Registry, subsequent secondary market sales must be recorded in the RA Registry, prior to an LSE's ultimate use of such RA capacity in a compliance showing. Recordation of conveyances would, of course, simplify the due diligence required by any purchaser of RA capacity, as well as the CAISO "checkout" process. Upon recordation of the use of NQC as RA capacity, the RA Registry would preclude any other person's simultaneous use of the NQC as RA capacity. The RA Registry would be publicly accessible and holdings of NQC as RA capacity should be updated continuously, to accommodate monthly sales of RA capacity. The Joint Parties request that the Commission approve the use of the RA Registry to not only record CAISO-certified NQC, but to record first sales by a resource of NQC as RA capacity and the acquisition of such RA capacity by a LSE for use in a compliance showing.

6. Define applicable locational resource attributes, in addition to NQC, as part of the RA capacity product and record these attributes in the RA Registry. Under the current RA program, there may be separate showing requirements for system RA and local RA (in addition to restrictions on the system RA showing to ensure zonal needs are met). The distinguishing factor in these different showings is a resource's location on the network, and not any availability performance. Accordingly, capacity that, due to its location, qualifies for local RA would also be eligible to satisfy system RA requirements, and fall within zonal restrictions as well. Capacity that meets particular, local RA requirements should be fungible with other capacity that meets such local RA requirements, but also would be usable for system RA (provided zonal transfer restrictions are met) and, therefore, be interchangeable with other capacity that qualifies

---

<sup>9</sup> Commercial terms of any sale would not be recorded in the RA Registry, nor would there be a requirement that such terms be disclosed publicly or privately. The RA Registry would not contain confidential or proprietary information, such as price, or whether the transfer was part of a long-term arrangement.

for such use, but that may not meet local RA requirements. Thus, in validating the NQC of each resource, the CAISO should also identify in the RA Registry whether each resource meets local RA requirements and zonal transfer restrictions, as determined by the CAISO and approved by the CPUC, or is only eligible for use in meeting system RA requirements, according to established geographic criteria. With the locational attribute of a specific resource clearly identified in the RA Registry, buyers and sellers of that NQC will be able to transact to meet their local and system RA compliance needs, as well as engage in system resource transactions, such as swaps, to accommodate differing zonal transfer rights between the LSEs. The market will determine whether capacity that meets local RA and system RA requirements is more valuable than capacity that only satisfies system RA requirements. The Joint Parties propose, therefore, that the Commission define the RA capacity product to encompass the attribute of whether the specific resource meets any local RA requirements, or only meets system RA requirements, and that such attributes be specified in the RA Registry.

7. Clarify that no energy or ancillary services from the capacity are conveyed as part of the RA capacity product. As described above, the RA capacity product should encompass the locational elements of a resource that allow it to be used in LSE compliance showings. No other power product of the resource should normally be included in the definition of the RA capacity product, allowing RA capacity to be readily tradable. Thus, consistent with earlier Commission decisions, RA capacity does not include any right to energy or ancillary services from a generating unit. The RA capacity product is the right to count the fixed NQC of a specific resource to meet prescribed LSE RA procurement requirements. The Joint Parties request that the Commission clarify that the defined RA capacity product does not include any right to energy or ancillary services from a generating unit.<sup>10</sup>

---

<sup>10</sup> This express exclusion of energy and ancillary services rights from a resource's RA capacity product would not preclude parties from negotiating the separate conveyance of such rights associated with an RA

8. Codify suppliers' performance obligations in the CAISO Tariff, consistent with the existing MRTU Tariff. As stated above, an essential element of the Proposal is that RA suppliers' existing performance obligations would be codified in the CAISO Tariff, thereby enhancing the reliability services obtained by the CAISO.<sup>11</sup> Nothing in the Proposal is intended to diminish the performance obligations of a supplier that sells RA capacity. To that end, the Joint Parties recommend that the Commission acknowledge that, under the CAISO's MRTU Tariff, a supplier providing RA capacity would remain subject to existing performance obligations, such as the existing must-offer obligation, and any future MRTU obligations to bid into the Day-Ahead Integrated Forward Market ("IFM") and the Residual Unit Commitment ("RUC") process. Any future elaboration of a RA supplier's performance obligations should be clearly specified in the CAISO's MRTU Tariff. Similarly, penalties for violation of these performance obligations should be specified in and enforced under the CAISO Tariff.

9. A RA supplier's availability obligations should be enforced under the CAISO Tariff and not through the standardized RA contract. The RA program is intended to encourage RA suppliers to achieve a high level of availability and, therefore, penalties should be imposed for a low level of availability. Under the present structure of the RA program, availability penalties are enforced not through the CAISO Tariff, but through the inclusion of negotiated availability provisions in their bilateral RA contracts. For example, the Southern California Edison ("SCE") *pro forma* RA contract includes availability penalties on RA suppliers. The presence of availability obligations and penalties have given rise to the need for risk sharing

---

resource. The conveyance of energy or ancillary services rights would be "unbundled" from the conveyance of the NQC as RA capacity.

<sup>11</sup> The Proposal exempts from RA Registry requirements Qualifying Facilities and resources committed to an LSE Resource Adequacy Plan pursuant to a grandfathered RA capacity contract executed prior to the effective date of the CAISO Tariff modifications contemplated by this Proposal. The RA Registry could encompass such resources on a voluntary basis.

among the supplier and purchaser of RA capacity, and have, in turn, necessarily led to negotiation of complex contractual provisions to define and to allocate such risk through customized damages, indemnity, replacement capacity, credit and confidentiality provisions. The individualized negotiation of these types of contractual provisions has precluded development of a standardized RA capacity product. Furthermore, the individualized risk-sharing and associated credit and confidentiality provisions have created a high bar to trading among LSEs and others of RA positions.

A fundamental objective of the Proposal is to ease transacting and improve tradability by removing the risk of resource unavailability from the RA contract, and placing the risk of unavailability in the CAISO Tariff. Making availability penalties associated with RA capacity fully enforceable against Scheduling Coordinators under the CAISO Tariff would allow performance monitoring and enforcement by the CAISO, which is best situated to do so, and obviate the need for buyers and sellers to include in their RA agreements damages, indemnity, replacement, credit, and confidentiality provisions relating to suppliers' performance during a compliance period.<sup>12</sup> Besides avoiding the significant transaction costs associated with negotiating these provisions and managing the associated risks, removal of these provisions is a prerequisite to the development of a standardized RA contract, capable of supporting a readily tradable RA capacity product. Accordingly, the Joint Parties request that the Commission approve the concept of having suppliers' performance and availability obligations and associated remedies governed directly by RA-specific provisions in the CAISO Tariff, rather than through customized bilateral agreements between buyers and sellers of RA capacity, as the current RA Program structure requires.

---

<sup>12</sup> To the extent deemed necessary, the CAISO could propose in its stakeholder process amendments to its current MRTU credit provisions that would be specifically applicable to RA suppliers with respect to potential inability to cover the penalty amounts prescribed in the tariff.

The Joint Parties acknowledge that there may be alternative metrics for specifying availability obligations and associated penalties and remedies for unavailability in the CAISO Tariff. These provisions will need to be addressed in a prioritized CAISO stakeholder process.<sup>13</sup> For purposes of this Proposal, the Joint Parties have assumed continuation of the Commission’s “forced is forced” policy and the existing penalty metrics included in the SCE *pro forma* contract. Accordingly, the illustrative MRTU amendments that are attached to this filing incorporate the Commission’s “forced is forced” policy and treat resources as being available if not on scheduled outages during a month. In addition, the illustrative MRTU amendments establish an exception whereby the CAISO might pre-approve the scheduling of major maintenance outages during off-peak periods that would not subject the resource to penalty for those excused outages.<sup>14</sup> The Joint Parties ask the Commission to clarify in its decision that use of the proposed penalty metric concept included in the illustrative tariff amendments is acceptable, without prejudging whether other penalty metrics might be appropriately considered in the expedited CAISO stakeholder process.

10. Enforcement of availability and replacement obligations would be under CAISO Tariff. A corollary of prescribing availability metrics and performance obligations in the CAISO Tariff is that enforcement of these obligations would not be a matter of contract enforcement, but rather would be the responsibility of the CAISO. The Commission’s “forced is forced” policy is not intended to create a capacity substitution requirement for buyers or sellers of RA capacity, but were the CAISO to determine the need, under particular circumstances, for a replacement

---

<sup>13</sup> Appropriate penalty metrics for intermittent resources also need to be considered and are not addressed in the illustrative MRTU amendments attached hereto. In addition, consideration could be given to “shaping” the amount of penalties for different periods during the year, reflecting projected shape of load.

<sup>14</sup> The Proposal does not incorporate replacement cost provisions from the Southern California Edison *pro forma*, as an LSE would not have a duty to obtain replacement capacity based on the performance of the RA capacity during the compliance period.



capacity requirement, it should be prescribed in the CAISO Tariff and not made the responsibility of the RA capacity purchaser. By relieving RA purchasers of any responsibility for a RA supplier's performance and availability during a compliance year, LSEs and other purchasers would not need to negotiate complex damages and indemnification provisions. Nor would parties have to deal with confidentiality issues that may arise from any on-going monitoring of performance, because the obligation of performance would now run to the CAISO which has direct access to confidential system and resource information. Instead, the RA suppliers would be subject to potential penalties under the CAISO Tariff and any reporting provisions needed to enforce those provisions. Thus, the Joint Parties recommend that the Commission expressly disclaim a requirement that, as part of the RA contract, LSEs and other purchasers of RA capacity would have any replacement capacity obligation or any need to monitor a RA resource's on-going performance during a compliance period. Moreover, any reporting requirements by RA resources relating to their on-going performance should also be specified in the CAISO Tariff and, therefore would not need to be addressed in any bilateral contracts to secure the standardized RA product.

To the extent that the CAISO has the authority to determine that, under certain circumstances, there is a need to purchase replacement capacity for non-performing RA capacity, and to the extent that penalties would be payable by the supplier, they should be in the nature of either cover damages or liquidated damages payable to the CAISO, to allow it to cover expected replacement costs.<sup>15</sup> Specification of the replacement capacity provisions and the penalties should be governed by the CAISO Tariff.

---

<sup>15</sup> Suppliers should be given flexibility in substituting uncommitted resources for any committed RA capacity from a resource that does not meet prescribed availability obligations, provided that such substitution does not cause any reduction in reliability or increase in CAISO procurement costs. Such substitution would be enforced by the CAISO Tariff and need not involve the holder of the RA capacity product that had been previously sold or transferred. Conversely, substitution would ensure that CAISO

11. Backstop reliability services are not part of the RA capacity product. Distinct from CAISO's determination of a need in specific circumstances to obtain substitute capacity to replace non-performing RA capacity, the CAISO may determine that it has insufficient capacity available to it or that it requires the purchase of more specialized services or backstop reliability capacity. Such determinations and procurement of the needed services should be made under an applicable CAISO Tariff provision that would be distinct from the provisions associated with the provisions of RA capacity. That is, if the CAISO requires the purchase of specialized services or backstop reliability services not obtained through the procurement of RA capacity by LSEs, the terms of provision of these non-RA services (including product specification, compensation to the suppliers, and cost responsibility) would be separately provided in the CAISO Tariff.<sup>16</sup> The Joint Parties request that the Commission differentiate between RA capacity and the CAISO's procurement of more specialized services or backstop reliability capacity and that the latter be governed by CAISO Tariff provisions distinct from the provisions in Section 40 of the MRTU Tariff that govern the RA capacity product.

12. Purchasers are not responsible for RA suppliers' costs and the RA suppliers retain revenues without offset. The standardized RA capacity product itself generally confers no rights on the RA purchaser to any operating revenues, either directly or by offset, and, conversely, the RA purchaser is not responsible for any of the RA supplier's costs. However, payments that the CAISO makes through other tariff mechanisms (e.g., RMR, RCST, or its anticipated successor) for availability of the same NQC that is conveyed through the

---

received the reliability commitments to which a supplier committed and, therefore, penalties would be appropriately mitigated.

<sup>16</sup> This proposal does not prejudge how the CAISO should effect backstop procurement of capacity, which is a matter to be addressed in the CAISO's Interim Capacity Procurement Mechanism stakeholder process. Such backstop procurement should generally be treated as an independent process, and not intended for corrections or modifications to particular trades of RA capacity.

standardized RA capacity product should not result in the RA supplier being paid twice for the same product. The Joint Parties request that the Commission confirm this position, which is essential to create a standardized RA capacity product, although parties would be free to negotiate modified revenue- or cost-sharing provisions.

13. Derating of a resource would be governed by the CAISO Tariff and not by bilateral contracts for the standardized RA product. There has been some consideration in the discussions leading up to this Proposal of whether an RA resource's performance in one compliance year could result in a derating of the NQC of the resource for the following year. Neither Commission orders nor the CAISO Tariff presently prescribe such derating. Accordingly, the Proposal, being based on the existing set of performance and availability obligations, does not include a provision for derating of NQC.<sup>17</sup> In the event that derating is considered in a future CAISO stakeholder process, the Joint Parties request that the Commission adopt the following policy: (i) any derating policy should be prescribed in the CAISO Tariff, with clear definitions of performance and availability obligations, (ii) derating based on non-performance should be effective prospectively for RA contracts negotiated after the effective date of the Tariff modification, (iii) any derating should take effect only in a subsequent compliance period and not result in a loss of current-period NQC, and that (iv) there should be no doubling-up of penalties for non-performance in the current compliance period and derating of NQC for the subsequent compliance period.<sup>18</sup>

---

<sup>17</sup> Some parties have expressed concerns that such derating proposals may create undesirable impacts on incentives to enhance asset availability, particularly if derating occurs in combination with in-period penalties.

<sup>18</sup> Thus, any consideration in the CAISO stakeholder process of derating of NQC must consider revisions to the penalty provisions contained in the illustrative modifications to Section 40 in order to avoid punitive consequences to RA capacity resources. Note, however, as discussed in footnote 7, that NQC may be derated prospectively for future compliance periods for technical reasons under applicable NQC testing or deliverability criteria that reflect the resource's inability to meet its current NQC rating in the future period, regardless of whether penalties were assessed under applicable performance requirements for current or prior periods.

14. Authorize use of standardized confirmation letter. In the energy trading world, trading is facilitated by use of master agreements and standardized confirmation letters. Master agreements set forth performance obligations, remedies, and other standard legal provisions, found in commercial contracts, but do not commit the parties to specific transactions. Transactions are entered into through the confirmation process, which is typically documented through one- or two-page confirmation letters. Use of confirmation letters streamlines the negotiation process, by allowing buyer and seller to focus on essential commercial terms of a transaction, such as price, quantity, and term.<sup>19</sup> Development of a readily-tradable RA capacity product would be facilitated by adoption of a standardized confirmation letter that fits within the existing structure of prevailing industry master agreements, such as the EEI Master Agreement or WSPP Agreement. The Joint Parties attach to this Proposal an illustrative standardized form of a confirmation letter that would implement the Proposal set forth in this filing. The Joint Parties ask the Commission to authorize, in concept, the use of this and any similar standardized confirmation letter for purposes of the RA Program requirements, as modified by this Proposal, and to specifically authorize, use of this or a similar confirmation letter (as would be conformed with any final CAISO tariff amendments necessary to implement this Proposal) in conveying the standardized RA capacity product.<sup>20</sup> The Joint Parties note that the attached illustrative confirmation letter is drafted to be effective for an annual compliance period, but that parties could agree to enter into multi-year forward sales of RA capacity using the confirmation letter.<sup>21</sup>

---

<sup>19</sup> And, in a particular transaction, buyer and seller may agree as part of the confirmation to add special provisions that modify or amplify the master agreement.

<sup>20</sup> The Joint Parties believe that the Commission need not provide any guidance with respect to the contractual matters covered in master agreements. Indeed, the confirmation letter envisioned by the Joint Parties could be executed consistent with EEI, or WSPP master agreements or other bilateral arrangements between buyers and sellers.

<sup>21</sup> In a multi-year sale, the parties would need to consider adding special provisions to take account of the fact that, under the Proposal, NQC and locational attributes of RA capacity would be fixed only for one compliance year forward.

15. Assignability. Adopted as an integral package, the Proposal is designed to facilitate secondary trading of RA capacity, which is an objective the Commission has previously endorsed. Accordingly, the Joint Parties ask the Commission to reiterate that the RA capacity product would be freely tradable and recordable at the CAISO, or in the RA Registry, when available.<sup>22</sup>

### **III. CONCLUSION**

The Joint Parties seek implementation of the Proposal for use in procuring RA capacity at the earliest opportunity, and hopefully for the 2009 compliance year (and for any remaining monthly procurement after its effective date). Such implementation requires both Commission approval of the major elements of the Proposal, as specified in this filing, and institution of a CAISO stakeholder process culminating in a filing with FERC of modifications to Section 40 of the MRTU Tariff. The Joint Parties recommend, therefore, that the Commission approve the Proposal as discussed herein, as soon as practicable, and recommend that the CAISO expedite the prioritization of stakeholder proceedings to adopt the tariff modifications needed to implement the Proposal.<sup>23</sup>

With these actions, the Joint Parties believe that implementation of the Proposal will result in substantially simplified RA contracting, the development of a readily-tradable standardized RA capacity product, clarity regarding RA resource performance obligations and associated penalties for non-performance, substantially reduced transaction costs and administrative overhead for the Commission's staff, and placement of RA performance

---

<sup>22</sup> The attached illustrative RA capacity confirmation letter is drafted so as not to be assignable without the consent of the supplier. This provision would allow supplier to preserve its credit position in the event of a transaction structured with multiple or deferred payment.

<sup>23</sup> Until RA suppliers' performance and availability obligations are incorporated in a filed CAISO Tariff, it is not likely that parties would begin to use the proposed, standardized confirmation letter to replace the use of complex negotiated bilateral contracts.

monitoring and enforcement with the CAISO, the entity that is best situated to perform these functions, thereby improving grid operations. Together, these results would mean a streamlined, less expensive, and more reliable standardized RA capacity product, benefiting all stakeholders and electricity consumers.

Respectfully submitted,

/s/ Linda Sherif

Alexandre B. Makler  
Vice President and Managing Counsel  
Linda Sherif  
Senior Regulatory Counsel  
Calpine Corporation  
3875 Hopyard Road, Suite 345  
Pleasanton, CA 94588

Mark L. Perlis  
Dickstein Shapiro, LLP  
1825 Eye Street, N.W.  
Washington, D.C. 20006  
Email: perlism@dicksteinshapiro.com

On behalf of Joint Parties

Dated: November 16, 2007

**ILLUSTRATIVE REVISIONS TO MRTU Section 40**  
**To Accommodate Standardized RA Capacity Contract**  
**per CPUC Decision 07-06-029 (June 21, 2007) in**  
**Rulemaking 05-12-013 (Opinion on Phase 2 – Track 1 Issues)**

Marked Against

**MRTU Compliance Filing RA 205, P1167 Local Requirements**  
**April 20 Order – P638, 617, 618, 633, 621/159**

**August 3, 2007 Filing**

\* \* \*

**ARTICLE V – RESOURCE ADEQUACY****40                    RESOURCE ADEQUACY DEMONSTRATION FOR ALL SCHEDULING  
COORDINATORS SCHEDULING DEMAND IN THE CAISO CONTROL AREA.****40.1                Applicability.**

A Load Serving Entity, and its Scheduling Coordinator, shall be exempt from this Section 40 during the next RA Compliance Year, if the metered peak Demand of the Load Serving Entity did not exceed one (1) MW during the twelve months preceding the last date on which the Load Serving Entity can make the election in Section 40.1.1 for the next RA Compliance Year. This Section 40 shall apply to all other Load Serving Entities and their respective Scheduling Coordinators. For purposes of Section 40, a Load Serving Entity shall not include any entity satisfying the terms of California Public Utilities Code Section 380(j)(3).

**40.1.1            Election of Load Serving Entity Status**

On an annual basis, in the manner and schedule set forth in the Business Practice Manual, the Scheduling Coordinator for a Load Serving Entity, not exempt under Section 40.1, shall inform the CAISO whether each such LSE elects to be either: (i) a Reserve Sharing LSE or (ii) a Modified Reserve Sharing LSE. A Scheduling Coordinator for a Load-following MSS is not required to make an election under this Section. Scheduling Coordinators for Load-following MSSs are subject solely to Sections 40.2.4 and 40.3.

The CAISO may confirm with the CPUC, Local Regulatory Authority, or federal agency, as applicable, the accuracy of the election by the Scheduling Coordinator for any LSE under its respective jurisdiction, or, in the absence of any election by the Scheduling Coordinator, the desired election for any LSE under its jurisdiction. The determination of the CPUC, Local Regulatory Authority, or federal agency will be deemed binding by the CAISO on the Scheduling Coordinator and the LSE. If the Scheduling Coordinator and CPUC, Local Regulatory Authority, or federal agency, as appropriate, fail to make the election on behalf of an LSE in accordance with the Business Practice Manual, the LSE shall be deemed a Reserve Sharing LSE.



**40.2 Information Requirements Regarding Resource Adequacy Programs.**

**40.2.1. Reserve Sharing LSEs.**

**40.2.1.1 Requirements for CPUC Load Serving Entities Electing Reserve Sharing LSE Status.**

- (a) The Scheduling Coordinator for a CPUC Load Serving Entity electing Reserve Sharing LSE status must provide the CAISO with all information or data to be provided to the CAISO as required by the CPUC and pursuant to the schedule adopted by the CPUC.
- (b) Where the information or data provided to the CAISO under Section 40.2.1.1(a) does not include Reserve Margin(s), then the provisions of Section 40.2.2.1(b) shall apply.
- (c) Where the information or data provided to the CAISO under Section 40.2.1.1(a) does not include criteria for determining qualifying resource types and their Qualifying Capacity, then the provisions of Section 40.8 shall apply.
- (d) Where the information or data provided to the CAISO under Section 40.2.1.1(a) does not include annual and monthly Demand Forecasts requirements, then the provisions of Section 40.2.2.3 shall apply.
- (e) Where the information or data provided to the CAISO under Section 40.2.1.1(a) does not include annual and monthly Resource Adequacy Plan requirements, then Section 40.2.2.4 shall apply.

**40.2.2 Requirements for Non-CPUC Load Serving Entities Electing Reserve Sharing LSE Status, Including Default Provisions for CPUC Load Serving Entities.**

**40.2.2.1 Reserve Margin.**

- (a) The Scheduling Coordinator for a Non-CPUC Load Serving Entity electing Reserve Sharing LSE status must provide the CAISO with the Reserve Margin(s) adopted by the appropriate Local Regulatory Authority or federal agency for use in the annual Resource Adequacy Plan and monthly Resource Adequacy Plans listed as a percentage of the Demand Forecasts developed in accordance with Section 40.2.2.3.

- (b) For the Scheduling Coordinator for a Non-CPUC Load Serving Entity for which the appropriate Local Regulatory Authority or federal agency has not established a Reserve Margin(s) or a CPUC Load Serving Entity subject to Section 40.2.1.1(b) that has elected Reserve Sharing LSE status, the Reserve Margin shall be no less than 15% of the applicable month's peak hour Demand of the LSE as determined by the Demand Forecasts developed in accordance with Section 40.2.2.3.

\* \* \*

#### **40.2.2.3 Demand Forecasts.**

The Scheduling Coordinator for a Non-CPUC Load Serving Entity or CPUC Load Serving Entity subject to Section 40.2.1.1(b) electing Reserve Sharing LSE status must provide annual and monthly Demand Forecasts on the schedule and in the reporting format(s) set forth in the Business Practices Manual. The annual and monthly Demand Forecasts shall utilize the annual and monthly coincident peak Demand determinations provided by the California Energy Commission for such Load Serving Entity; or (ii) if the California Energy Commission does not produce coincident peak Demand Forecasts for the Load Serving Entity, the annual and monthly coincident peak Demand Forecasts produced by the CAISO for such Load Serving Entity in accordance with its Business Practice Manual. Scheduling Coordinators must provide data and/or information, as may be requested by the CAISO, to develop or support the Demand Forecasts required by this Section and the CAISO may share all such information with the California Energy Commission at its request.

#### **40.2.2.4 Annual and Monthly Resource Adequacy Plans.**

The Scheduling Coordinator for a Non-CPUC Load Serving Entity or a CPUC Load Serving Entity subject to Section 40.2.1.1(b) electing Reserve Sharing LSE status must provide annual and monthly Resource Adequacy Plans, on a schedule and in the reporting format(s) set forth in the -Business Practice Manual, for such Load Serving Entity. The annual Resource Adequacy Plan must, at a minimum, set forth the Local Capacity Area Resources, if any, procured by the Load Serving Entity as described in Section 40.3. The monthly Resource Adequacy Plan should identify the resources the Load Serving Entity will rely upon to satisfy the applicable month's peak hour Demand of the Load Serving Entity as determined by the

Demand Forecasts developed in accordance with Section 40.2.2.3 and applicable Reserve Margin.

Resource Adequacy Plans must utilize the Net Qualifying Capacity requirements of Section 40.4.

#### **40.2.3 Modified Reserve Sharing LSEs.**

##### **40.2.3.1 Reserve Margin.**

- (a) The Scheduling Coordinator for a Load Serving Entity electing Modified Reserve Sharing LSE status must provide the CAISO with the Reserve Margin(s) adopted by the CPUC, Local Regulatory Authority or federal agency, as appropriate, for use in the annual Resource Adequacy Plan and monthly Resource Adequacy Plans listed as a percentage of the Demand Forecasts developed in accordance with Section 40.2.3.3.
- (b) For the Scheduling Coordinator for a Load Serving Entity electing Modified Reserve Sharing LSE status for which the CPUC, Local Regulatory Authority, or federal agency, as appropriate, has not established a Reserve Margin, the Reserve Margin shall be no less than 15% of the applicable month's peak hour Demand of the Load Serving Entity, as determined by the Demand Forecasts developed in accordance with Section 40.2.3.3.

\* \* \*

##### **40.2.3.3 Demand Forecasts.**

- (a) The Scheduling Coordinator for a Load Serving Entity electing Modified Reserve Sharing LSE status must submit, as part of its monthly Resource Adequacy Plan, a Demand Forecast reflecting the non-coincident peak hour Demand to be served by the Modified Reserve Sharing LSE for the relevant month, measured in megawatts. This Demand Forecast plus the applicable Reserve Margin as set forth in Section 40.2.3.1 shall establish the Scheduling Coordinator's monthly Resource Adequacy Plan demonstration for each Modified Reserve Sharing LSE for the relevant month.
- (b) The Scheduling Coordinator for a Load Serving Entity electing Modified Reserve Sharing LSE status must submit, on the schedule and in the reporting format set forth in the Business Practice Manual, hourly Demand Forecasts for each Trading Hour of the next Trading Day for each Modified Reserve Sharing LSE represented.

- (c) The Scheduling Coordinator for a Load Serving Entity electing Modified Reserve Sharing LSE status must provide data or supporting information, as requested by the CAISO, for the Demand Forecasts required by Section 40.2.3.3 for each Modified Reserve Sharing LSE served by the Scheduling Coordinator and a description of the criteria upon which the Demand Forecast was developed, and any modifications thereto as they are implemented from time to time.

#### **40.2.3.4 Annual and Monthly Resource Adequacy Plans.**

The Scheduling Coordinator for a Load Serving Entity electing Modified Reserve Sharing LSE status must provide annual and monthly Resource Adequacy Plans, on a schedule and in the reporting format set forth in the Business Practice Manual, for each Modified Reserve Sharing LSE served by the Scheduling Coordinator. The annual Resource Adequacy Plan must, at a minimum, set forth the Local Capacity Area Resources, if any, procured by the Modified Reserve Sharing LSE as described in Section 40.3. The monthly Resource Adequacy Plan must identify the resources the Modified Reserve Sharing LSE will rely upon to satisfy its monthly forecasted monthly Demand and Reserve Margin as set forth in Section 40.2.3.1, for the relevant reporting period and must utilize the Net Qualifying Capacity requirements of Section 40.4.

#### **40.2.4 Load-Following MSS.**

A Scheduling Coordinator for a Load-following MSS must provide an annual Resource Adequacy Plan that sets forth the Local Capacity Area Resources, if any, procured by the Load-following MSS as described in Section 40.3. The annual Resource Adequacy Plan shall utilize the annual coincident peak Demand determination provided by the California Energy Commission for such Load-following MSS or, if the California Energy Commission does not produce coincident peak Demand Forecasts for the Load-following MSS, the annual coincident peak Demand Forecast produced by the CAISO for such Load-following MSS in accordance with its Business Practice Manual.

### **40.3 Local Capacity Area Resource Requirements Applicable to Scheduling Coordinators for All Load Serving Entities.**

#### **40.3.1 CAISO Technical Study.**

The CAISO will, on an annual basis, perform and publish on the CAISO Website a technical study that determines the minimum amount of Local Capacity Area Resources in MW that must be available to the CAISO within each Local Capacity Area identified in the technical study and identifies the Generating Units, including such Generating Units' Net Qualifying Capacity, within each identified Local Capacity Area. The CAISO shall collaborate with the CPUC, Local Regulatory Authorities within the CAISO Control Area, and Market Participants to establish the parameters, assumptions, and other criteria to be used and described in the technical study that permit compliance with the following components of Reliability Criteria:

Contingency Component(s)	Locational Capacity Criteria
<b><u>NERC/WECC Performance Level A – No Contingencies</u></b>	<b>X</b>
<b><u>NERC/WECC Performance Level B – Loss of a single element</u></b> 1. Generator (G-1) 2. Transmission Circuit (L-1) 3. Transformer (T-1) 4. Single Pole (dc) Line 5. G-1 system readjusted L-1	<b>X<sup>1</sup></b> <b>X<sup>1</sup></b> <b>X<sup>1,2</sup></b> <b>X<sup>1</sup></b> <b>X</b>
<b><u>NERC/WECC Performance Level C – Loss of two or more elements</u></b> 1. Bus Section 2. Breaker (failure or internal fault) 3. L-1 system readjusted G-1 3. G-1 system readjusted T-1 or T-1 system readjusted G-1 3. L-1 system readjusted T-1 or T-1 system readjusted L-1 3. G-1 system readjusted G-1 3. L-1 system readjusted L-1 3. T-1 system readjusted T-1 4. Bipolar (dc) Line 5. Two circuits (Common Mode) L-2 6. SLG fault (stuck breaker or protection failure) for G-1 7. SLG fault (stuck breaker or protection failure) for L-1 8. SLG fault (stuck breaker or protection failure) for T-1 9. SLG fault (stuck breaker or protection failure) for Bus section WECC-S3. Two generators (Common Mode) G-2	<b>X</b> <b>X</b> <b>X</b> <b>X</b> <b>X</b> <b>X</b> <b>X</b> <b>X</b> <b>X</b> <b>X</b> <b>X</b>
<b><u>D – Extreme event – loss of two or more elements</u></b> Any B1-4 system readjusted (Common Mode) L-2 All other extreme combinations D1-14.	<b>X<sup>3</sup></b>
<b>NOTES</b> 1 System must be able to readjust to a safe operating zone in order to be able to support the loss of the next system element that would constitute a Contingency. Manual readjustment is the time required for	

<p>an operator to take all actions necessary to prepare the system for the next Contingency. Under CAISO Grid Planning Standards, this time must be less than 30 minutes. However, if remote capability does not exist and a person must be dispatched in the field to perform switching, an exemption may be approved for small local areas as described in approved operating procedures and the approved operating procedure will be assumed to perform the studies under this Section.</p> <p>The involuntary interruption of Load shall not constitute an action for readjustment after a Category B event.</p> <p>2 A thermal or voltage criterion violation resulting from a transformer Outage may not be cause for a Local Capacity Area reliability requirement if the violation is considered marginal (e.g., acceptable loss of facility life or low voltage), otherwise, such a violation will necessitate creation of a requirement.</p> <p>3 Evaluate for risks and consequence, per NERC/WECC standards. No voltage collapse or dynamic instability allowed.</p>	
--	--

#### **40.3.2 Allocation of Local Capacity Area Resource Obligations.**

The CAISO will allocate responsibility for Local Capacity Area Resources to Scheduling Coordinators for Load Serving Entities in the following sequential manner:

- i. The responsibility for the aggregate Local Capacity Area Resources required for all Local Capacity Areas within each TAC Area will be allocated to all Scheduling Coordinators for Load Serving Entities that serve Load in the TAC Area in accordance with the Load Serving Entity's proportionate share of the LSE's TAC area load at the time of the CAISO's annual coincident peak Demand Forecast for the next RA Compliance Year as determined by the California Energy Commission. Expressed as a formula, the allocation of Local Area Capacity Resource obligations will be as follows:  $(\sum \text{Local Capacity Area MW in TAC}) * (\text{LSE Demand in TAC Area at CAISO annual coincident peak Demand}) / (\text{Total TAC area Demand at the time of CAISO annual coincident peak Demand})$ . This will result in a MW responsibility for each Load Serving Entity for the entire TAC Area that may be met by procurement of that MW quantity in any Local Capacity Area in the TAC Area.
- ii. For Scheduling Coordinators for Non-CPUC Load Serving Entities, the Local Capacity Area Resource obligation will be allocated based on Section 40.3.2(i) above.

- iii. For Scheduling Coordinators for CPUC Load Serving Entities, the CAISO will allocate the Local Capacity Area Resource obligation based on an allocation methodology, if any, adopted by the CPUC. However, if the allocation methodology adopted by the CPUC does not fully allocate the total sum of each CPUC Load Serving Entity's proportionate share calculated under Section 40.3.2(i), the CAISO will allocate the difference to all Scheduling Coordinators for CPUC Load Serving Entities in accordance with their proportionate share calculated under 40.3.2(i). If the CPUC does not adopt an allocation methodology, the CAISO will allocate Local Capacity Area Resources to Scheduling Coordinators for CPUC Load Serving Entities based on Section 40.3.2(i).

Once the CAISO has allocated the total responsibility for Local Capacity Area Resources, the CAISO will inform the Scheduling Coordinator for each LSE of the LSE's specific allocated responsibility for Local Capacity Area Resources.

\* \* \*

#### **40.3.4 Procurement of Local Capacity Area Resources by the CAISO.**

The CAISO may procure Local Capacity Area Resources, pursuant to applicable provisions of the CAISO Tariff, including any mechanism incorporated into the CAISO Tariff specifically to permit procurement of Local Capacity Area Resources by the CAISO, to the extent:

- (i) a Scheduling Coordinator representing a Load Serving Entity with Load in the TAC Area in which the Local Capacity Area is located fails to demonstrate in an annual Resource Adequacy Plan procurement of the Load Serving Entity's share of Local Capacity Area Resources, as determined in Section 40.3.2, in which case the CAISO may procure Local Capacity Area Resources to remedy the deficiency pursuant to Section 42.1.5 and allocate the costs of such procurement pursuant to Section 42.1.8(a); provided that the CAISO shall not procure Local Capacity Area Resources to remedy the deficiency of the Load Serving Entity unless in the aggregate a deficiency exists that results in the failure to comply with the Reliability Criteria, set forth in Section 40.3.1.1, in the Local Capacity Area after taking into account Generating Units under Reliability Must-Run Contracts, if any, and all Resource Adequacy Resources reflected in all

submitted annual Resource Adequacy Plans, whether or not such Resource Adequacy Resources are located in the applicable Local Capacity Area; or

- (ii) the Local Capacity Area Resources specified in the annual Resource Adequacy Plans of all Scheduling Coordinators fail to permit or ensure compliance with the Reliability Criteria, set forth in Section 40.3.1.1, in one or more Local Capacity Areas, regardless of whether such resources satisfy, for the deficient Local Capacity Area, the minimum amount of Local Capacity Area Resources identified in the technical study performed under Section 40.3.1 and after taking into account Generating Units under Reliability Must-Run Contracts, if any, and all Resource Adequacy Resources reflected in all submitted annual Resource Adequacy Plans, whether or not such Resource Adequacy Resources are located in the applicable Local Capacity Area, in which case, the CAISO will procure Local Capacity Area Resources in an amount and location sufficient to permit or ensure compliance with the Reliability Criteria, set forth in Section 40.3.1.1, in the Local Capacity Area. The CAISO will procure any Local Capacity Area Resources required by this Section 40.3.4(ii) pursuant to Section 41; however, Section 41 shall be used as a secondary procurement mechanism, and only as necessary, following approval by FERC and incorporated into the CAISO Tariff of an alternative mechanism for the purpose of procuring Resource Adequacy Resources, including Local Capacity Area Resources.

To the extent the cost of CAISO procurement under this Section is allocated to a Scheduling Coordinator on behalf of a Load Serving Entity, that Scheduling Coordinator will receive credit toward its Local Capacity Area Resource obligation for the Load Serving Entity's pro rata share of the procured Local Capacity Area Resources. Whether or not the share of the Local Capacity Area Resources procured by the CAISO under this Section may count towards satisfaction of a Load Serving Entity's Reserve Margin shall be determined by the CPUC, Local Regulatory Authority, or federal agency with jurisdiction over the Load Serving Entity, unless the CPUC, Local Regulatory Authority, or federal agency has failed to establish a Reserve Margin, in which case the CAISO will assign the Load Serving Entity's share of the Local Capacity Area Resources towards satisfaction of its Reserve Margin pursuant to Sections 40.2.1.1(b), 40.2.2.1(b), and 40.2.3.1(b).

#### **40.3.4.1 Factors for Procuring Local Capacity Area Resources.**



The CAISO shall procure Local Capacity Area Resources under Section 40.3.4 considering the effectiveness of the capacity at meeting the Reliability Criteria, set forth in 40.3.1, in the Local Capacity Area and the costs associated with the capacity. The CAISO is permitted to procure a Generating Unit or Participating Load resource even where only a portion of capacity of the Generating Unit or Participating Load resource is needed to meet Reliability Criteria in the Local Capacity Area.

#### **40.3.4.2 Local Capacity Area Procurement Report.**

The CAISO shall publish a report on the CAISO Website which shall show the Local Capacity Area Resources procured under Section 40.3.4, the megawatts of capacity procured, the duration of the procurement, the reason(s) for the procurement, and all payments in dollars, itemized for each Local Capacity Area. The CAISO will provide a Market Notice of the availability of the report.

#### **40.4 General Requirements on Resource Adequacy Resources.**

##### **40.4.1 Designation of Eligible Resources and Determination of Qualifying Capacity**

The CAISO shall use the criteria provided by the CPUC or Local Regulatory Authority to determine and verify, if necessary, the Qualifying Capacity of all Resource Adequacy Resources; however, to the extent a resource is listed by one or more Scheduling Coordinators in their Resource Adequacy Plans, which apply the criteria of more than one Local Regulatory Authority that leads to conflicting Qualifying Capacity values for that resource, the CAISO will accept the methodology that results in the highest Qualifying Capacity value. Only if the CPUC, Local Regulatory Authority, or federal agency has not established any Qualifying Capacity criteria, or chooses to rely on the criteria in this CAISO Tariff, will the provisions of Section 40.8 apply.

##### **40.4.2 Net Qualifying Capacity Report.**

(i) Posting of Annual Report and Fixing of Net Qualifying Capacity Eligible for Use as Resource Adequacy Capacity. The CAISO shall produce an annual report posted to the CAISO Website, ~~no later than a date -on the schedule to be prescribed in~~ the Business Practice Manual that sets forth the Net Qualifying Capacity of all Participating Generators that is eligible for use as Resource Adequacy Capacity in the RA Compliance Year that commences on January 1 of the year following the posting of the annual report. All other Resource Adequacy Resources may be included in the annual report under Section

40.4.2 upon their request. The Net Qualifying Capacity of any resource included in the annual report, once posted to the CAISO Website, shall be eligible for use as Resource Adequacy Capacity effective for the applicable Resource Compliance Year, and shall not be thereafter reduced by the CAISO during for purposes of compliance use during such the next RA Compliance Year.

(ii) Eligibility for inclusion in annual report. In order to be included in the annual report's posting of Net Qualifying Capacity that is eligible for use as Resource Adequacy Capacity, Resource Adequacy Resources must verify to the CAISO, on or prior to the date contained in a-a schedule to be prescribed in the Business Practice Manual, that the Resource and its Scheduling Coordinator understand that they will become subject to the general qualifications contained in Section 40.4.3 upon registering such Net Qualifying Capacity in the RA Registry pursuant to Section 40.4.7.

(iii) Criteria for determination of Net Qualifying Capacity. For purposes of determining and posting a Resource's Net Qualifying Capacity, the CAISO shall use a Resource's Qualifying Capacity determined under Section 40.4.1, and such Net Qualifying Capacity shall remain in effect except as CAISO may redetermine it pursuant to the procedures specified in subparagraph (iv) using criteria for deliverability and testing analyses prescribed in protocols in the Business Practice Manual. Any information required to be provided by a Resource to the CAISO to permit application of the deliverability and testing criteria and protocols shall be submitted according to schedules prescribed in the Business Practice Manual. The CAISO may modify these criteria and protocols, after notice to market participants, but any changes to the criteria, protocols or to the information required to be provided shall not be effective for the upcoming Compliance Year with respect to any Resource that has submitted the verification required under subparagraph (ii) hereof.

(iv) Changes to Net Qualifying Capacity. After posting in an annual report for a RA Compliance Year, a Resource's Net Qualifying Capacity may be redetermined in accordance with subparagraph (iii) for the next succeeding RA Compliance Year, but may not be reduced for the upcoming RA Compliance Year, except as may be requested by a Resource and as redetermined pursuant to this subparagraph

(iv). A Resource may request a redetermination of its Net Qualifying Capacity to reflect maintenance or operational improvements or new capital investments and the CAISO may propose changes to redetermine a Resource's Net Qualifying Capacity based on the results of any deliverability, or testing analysis pursuant to such a request, or performance criteria analysis, provided that any such change. Any change proposed to be made to a Net Qualifying Capacity value specified in a prior has been annual report shall be explained to the Resource's Scheduling Coordinator, and any test results or analyses underlying the change provided, to the Scheduling Coordinator upon request at least fifteen (15) days prior to the posting on the CAISO Website of the change in such Net Qualifying Capacity. Absent such a request from a Resource, if, after posting a Resource's Net Qualifying Capacity in an annual report for an applicable RA Compliance Year, the CAISO performs additional deliverability or testing analyses on such Resource and determines to reduce the Net Qualifying Capacity, it may be reduced only for the RA Compliance Year that follows posting of the next succeeding annual report, provided further that any such change proposed to be made has been explained to the Resource's Scheduling Coordinator, and any test results or analyses underlying the change provided, to the Scheduling Coordinator upon request at least fifteen (15) days prior to the posting on the CAISO Website of the change in such Net Qualifying Capacity, and provided further that any such posted change in the Net Qualifying Capacity shall not be effective until the annual report RA Compliance Year that follows posting of the next succeeding annual report. Any disputes as to the CAISO's determination regarding Net Qualifying Capacity shall be subject to the CAISO ADR Procedures, provided that the amount that the CAISO has posted in an annual report shall not be subject to reduction in any dispute resolution proceeding. Any disposition of a dispute regarding Net Qualifying Capacity may result in an increase, but not a decrease, of a Resource's Net Qualifying Capacity for the RA Compliance Year that begins or began upon January 1 following the posting of the disputed annual report.

#### **40.4.3 General Qualifications for Supplying Net Qualifying Capacity.**

Resource Adequacy Resources ~~For any Resource other than a Qualifying Facility or a Resource to the extent it was previously included in a Resource Adequacy Plan pursuant to a grandfathered capacity contract executed prior to [insert effective date of amendments to Section 40 of the MRTU Tariff], To qualify for inclusion included~~ in a Resource Adequacy Plan as Resource Adequacy Capacity, submitted

~~by a Scheduling Coordinator on behalf of a Load Serving Entity serving Load in the CAISO Control Area must the Resource and its Scheduling Coordinator must request inclusion in an annual report and verify to the CAISO, on or before the date prescribed in Exhibit B-1, that they understand that they are subject to the following general qualifications that the Resource will:~~

- (1) Be available for testing by the CAISO to validate Qualifying Capacity and determine Net Qualifying Capacity ~~pursuant to Sections 40.4.1 and 40.4.2 for the next RA Compliance Year;~~
- (2) Provide any information requested by the CAISO to apply the ~~deliverability, testing and performance criteria as prescribed in Section 40.4.2 to be~~ adopted by the CAISO pursuant to Section 40.4.5;
- (3) Submit Bids into the CAISO Markets as required by this CAISO Tariff;
- (4) Be in compliance, as of the date that the CAISO performs any testing or otherwise determines Net Qualifying Capacity ~~pursuant to Section 40.4.2 for the next RA Compliance Year~~, with the criteria for Qualifying Capacity established ~~by the CPUC, relevant Local Regulatory Authority, or federal agency and provided to the CAISO pursuant to Section 40.4.1;~~ and
- (5) Be subject to ~~Sanctions Penalties~~ for non-performance as specified in ~~the CAISO Tariff~~ this Section 40.

#### ~~40.4.4. Reductions for Testing.~~

~~In accordance with the procedures specified in the Business Practice Manual, the Generating Unit of a Participating Generator or other Generating Units or System Units included in a Resource Adequacy Plan submitted by a Scheduling Coordinator on behalf of a Load Serving Entity can have its Qualifying Capacity reduced, for purposes of the Net Qualifying Capacity annual report under Section 40.4.2 for the next RA Compliance Year, if a CAISO testing program determines that it is not capable of supplying the full Qualifying Capacity amount.~~

#### ~~40.4.5 Reductions for Performance Criteria.~~

~~No later than 12 months after the effective date of this Section 40, the CAISO will issue a report outlining a proposal with respect to performance criteria for Resource Adequacy Resources. The CAISO will collaborate with the CPUC and other Local Regulatory Authorities to develop the performance criteria to~~

~~be submitted to FERC. The Scheduling Coordinator of a Resource Adequacy Resource shall provide or make available to the CAISO, subject to the confidentiality provisions of this CAISO Tariff, all documentation requested by the CAISO to determine, develop or implement the performance criteria, including, but not limited to, NERC Generating Availability Data System data.~~

#### ~~40.4.6 ———— Reductions for Deliverability.~~

##### ~~40.4.6.1 ———— Deliverability Within the CAISO Control Area.~~

~~In order to determine Net Qualifying Capacity from Resource Adequacy Resources subject to this Section 40.4, the CAISO will determine that a Resource Adequacy Resource is available to serve the aggregate of Load by means of a deliverability study. Documentation explaining the CAISO's deliverability analysis will be posted on the CAISO Website. The deliverability study will be performed annually and shall focus on peak Demand conditions. The results of the deliverability study shall be incorporated into the Net Qualifying Capacity annual report under Section 40.4.2 and will be effective for the next RA Compliance Year. To the extent the deliverability study shows that the Qualifying Capacity is not deliverable to the aggregate of Demand under the conditions studied, the Qualifying Capacity of the Resource Adequacy Resource will be reduced on a MW basis for the capacity that is undeliverable.~~

##### ~~40.4.6.2 ———— Deliverability of Imports.~~

~~[LANGUAGE FROM THE JUNE 18, 2007 COMPLIANCE FILING IN FERC DOCKET NO. ER07-648 TO REPLACE THIS LANGUAGE.]~~

#### ~~40.4.7 ———— Submission of Supply Plans.~~

~~Scheduling Coordinators representing Resource Adequacy Resources supplying Resource Adequacy Capacity shall provide the CAISO with an annual and/or monthly Supply Plan, as applicable, on the schedule set forth in the Business Practices Manual verifying their agreement to provide Resource Adequacy Capacity during the next RA Compliance Year or month. The Supply Plan must be in the form of the template provided on the CAISO Website, which shall include an affirmative representation by the Scheduling Coordinator submitting the Supply Plan that the CAISO is entitled to rely on the accuracy of the information provided in the Supply Plan to perform those functions set forth in this Section 40. The~~

~~CAISO shall be entitled to take reasonable measures to validate the accuracy of the information submitted in Supply Plans under this Section.~~

#### 40.4.7 Resource Adequacy Registry

The ISO shall maintain a centralized, internet-based and publicly accessible Resource Adequacy Registry which shall compile each Resource's Net Qualifying Capacity that is verified for use as Resource Adequacy Capacity for system and local RA requirements pursuant to Section 40.4.2 and the conveyance to LSEs and others of such verified Net Qualifying Capacity. The purpose of the Resource Adequacy Registry is to provide a public record of holdings of Net Qualifying Capacity that has been verified for use as Resource Adequacy Capacity for system and local RA requirements. LSEs and others that are required to obtain Resource Adequacy Capacity to meet their Resource Adequacy obligations under CPUC or Local Regulatory Authority rules and under this Section 40 and others who may trade Resource Adequacy Capacity may rely on the Resource Adequacy Registry in acquiring Net Qualifying Capacity for use as Resource Adequacy Capacity, provided that any conveyance of such Net Qualifying Capacity is registered in the Resource Adequacy Registry.

The Resource Adequacy Registry shall list the verified Net Qualifying Capacity that has been posted in the CAISO annual report issued under Section 40.4.2, and shall also list its eligibility for use as a Local Capacity Area Resource. As conveyances of a Resource's Net Qualifying Capacity occurs, the conveyance shall be reported confidentially to the Resource Adequacy Registry, using forms prescribed by CAISO in its Business Practice Manual, and only such amount of Net Qualifying Capacity shall be publicly registered to the account of a holder to whom such Capacity has been conveyed. The Resource Adequacy Registry shall not collect nor shall it disclose any confidential the economic terms and conditions of any conveyance of Net Qualifying Capacity. Any such holder of registered Net Qualifying Capacity may use such Net Qualifying Capacity as Resource Adequacy Capacity and include it in its Resource Plans, or such Net Qualifying Capacity may be conveyed to others for such possible use. Overselling of Net Qualifying Capacity shall not be permitted to be recorded and registered in the Resource Adequacy Registry to any other holder. Any such attempted overselling shall be reported to the registrants and posted on the Resource Adequacy Registry website.

A Qualifying Facility or a Resource to the extent it was previously included in a Resource Adequacy Plan pursuant to a grandfathered capacity contract executed prior to [the effective date of these amendments to Section 40] ("grandfathered Resource"), may elect to be included in the Resource Adequacy Registry, subject to the requirements for determining Net Qualifying Capacity under Section 40.4.2, but making such election shall not subject such Qualifying Facility or grandfathered Resource to the requirements of Sections 40.4.3, 40.6A, 40.7.2, or 40.7.3.

#### **40.5 Requirements Applicable to Modified Reserve Sharing LSEs Only.**

##### **40.5.1 Day Ahead Scheduling and Bidding Requirements.**

Scheduling Coordinators on behalf of Modified Reserve Sharing LSEs serving Load within the CAISO Control Area for whom they submit Demand Bids:

(1) Submit into the IFM a Self-Schedule or Bid equal to 115% of the hourly Demand Forecasts for each Modified Reserve Sharing LSE it represents for each Trading Hour for the next Trading Day. Subject to Section 40.5.5, the resources included in a Self-Schedule and/or a Bid in each Trading Hour to satisfy 115% of the Modified Reserve Sharing LSE's hourly Demand Forecasts will be deemed Resource Adequacy Resources and (i) shall be those resources listed in the Modified Reserve Sharing LSE's monthly Resource Adequacy Plan and (ii) shall include all Local Capacity Area Resources listed in the Modified Reserve Sharing LSE's annual Resource Adequacy Plan, if any, except to the extent the Local Capacity Area Resources, if any, are unavailable due to any Outages or reductions in capacity reported to the CAISO in accordance with this CAISO Tariff.

- i. A Local Capacity Area Resource that has not fully submitted a Bid or Self-Schedule for all of its Resource Adequacy Capacity will be subject to the CAISO's optimization for the remainder of its capacity, which must be Bid into the Day-Ahead Market; however, to the extent the Generating Unit providing Local Capacity Area Resource capacity constitutes a Use-Limited Resource under Section 40.6.4, the provisions of Section 40.6.4 will apply.
- ii. If the Resource Adequacy Resource submits a Bid for Ancillary Services, the Energy Bid associated with the Bid for Ancillary Services will be optimized by the CAISO. However,

pursuant to Section 8.6.2, to the extent the Local Capacity Area Resource self-provides Ancillary Services and local Constraints result is a solution in the MPM-RRD that involves Load reduction, then Self-Provided AS from the Local Capacity Area Resource will be converted into Ancillary Service Bids at the minimum Bid price for Ancillary Services as prescribed in Section 39.6.1.5.

- iii. Resource Adequacy Resources must participate in the RUC to the extent that the resource has not submitted a Self-Schedule or already committed to provide Energy or capacity in the IFM. Resource Adequacy Resources will be required to offer into RUC and will be considered based on a \$0 RUC Availability Bid.
- iv. Capacity from Resource Adequacy Resources selected in RUC will not be eligible to receive a RUC Availability Payment.

(2) Resource Adequacy Resources of Modified Reserve Sharing LSEs that do not clear in the IFM or are not committed in RUC shall have no further offer requirements in HASP or Real-Time, except under System Emergencies as provided in this CAISO Tariff.

(3) Resource Adequacy Resources committed by the CAISO must maintain that commitment through Real-Time. In the event of a Forced Outage on a Resource Adequacy Resource committed in the Day-Ahead Market to provide Energy, the Scheduling Coordinator for the Modified Reserve Sharing LSE will have up to the next HASP bidding opportunity, plus one hour, to replace the lesser of: (i) the committed resource suffering the Forced Outage, (ii) the quantity of Energy committed in the Day-Ahead Market, or (iii) 107% of the hourly forecast load.

#### **40.5.2 Demand Forecast Accuracy.**

On a monthly basis, the CAISO will review Meter Data to evaluate the accuracy or quality of the hourly Day-Ahead Demand Forecasts submitted by the Scheduling Coordinator on behalf of Modified Reserve Sharing LSEs. If the CAISO determines, based on its review, that one or more Demand Forecasts materially under-forecasts the Demand of the Modified Reserve Sharing LSEs for whom the Scheduling Coordinator schedules, after accounting for weather adjustments, the CAISO will notify the Scheduling Coordinator of the deficiency and will cooperate with the Scheduling Coordinator and Modified Reserve



Sharing LSE(s) to revise its Demand Forecast protocols or criteria. If the material deficiency persists for three (3) consecutive months with respect to the monthly Demand Forecast or ten (10) hourly occurrences over a minimum of two (2) non-consecutive Business Days within a month, the CAISO may: (i) inform State of California authorities including, but not necessarily limited to the California Legislature, and identify the Modified Reserve Sharing LSE(s) represented by the Scheduling Coordinator and (ii) assign to the Scheduling Coordinator responsibility for all Tier 1 RUC charges as specified in Section 11.8.6.5 to address the uncertainty caused by the Scheduling Coordinator's deficient hourly Demand Forecasts until the deficiency is addressed.

#### **40.5.3 Requirement to Make Resources Available During System Emergencies.**

Scheduling Coordinators for Modified Reserve Sharing LSEs that are MSS Operators shall make resources available to the CAISO during a System Emergency in accordance with the provisions of Section 4.9 and their Metered Subsystem Agreement. Scheduling Coordinators for all other Modified Reserve Sharing LSEs shall make available to the CAISO upon a warning or emergency notice of an actual or imminent System Emergency all resources that have not submitted a Self-Schedule or Economic Bid in the IFM that were listed in the Modified Reserve Sharing LSE's monthly Resource Adequacy Plan that are physically capable of operating without violation of any applicable law.

#### **40.5.4 Consequence of Failure to Meet Scheduling Obligation.**

(1) If the Scheduling Coordinator for the Modified Reserve Sharing LSE fails to submit a Self-Schedule or submit Bids equal to 115% of its hourly Demand Forecasts for each Trading Hour for the next Trading Day in the IFM and RUC, the Scheduling Coordinator will be charged a capacity surcharge of three times the price of the relevant Day-Ahead Hourly LAP LMP in the amount of the shortfall. To the extent the Scheduling Coordinator for the Modified Reserve Sharing LSE schedules imports on one or more Scheduling Points in an aggregate megawatt amount greater than its aggregate import deliverability allocation under Section 40.4.6.2, the quantity of megawatts in excess of its import deliverability allocation will not count toward satisfying the Modified Reserve Sharing LSE's scheduling obligation, unless it clears the Day-Ahead Market.

(2) If the Scheduling Coordinator for the Modified Reserve Sharing LSE cannot fulfill its obligations under Section 40.5.1(3), the Scheduling Coordinator for the Modified Reserve Sharing LSE will be charged a capacity surcharge of two times the average of the six (6) Settlement

Interval LAP prices for the hour in the amount of the shortfall. Energy scheduled in the HASP will not net against, or be used as a credit to correct, any failure to fulfill the Day-Ahead IFM hourly scheduling and RUC obligation in Section 40.5.2(1).

(3) Any Energy surcharge received by the CAISO pursuant to this Section 40.5.4 shall be allocated to Scheduling Coordinators representing other Load Serving Entities in proportion to metered Demand during the relevant Trading Hour(s).

#### **40.5.5 Substitution of Resources.**

Subject to the provisions of this Section 40.5, the Scheduling Coordinator for a Modified Reserve Sharing LSE may substitute for its Resource Adequacy Resources listed in its monthly Resource Adequacy Plan provided:

- 1) Substitutions must occur no later than the close of the IFM; and
- 2) Resources eligible for substitution are either imports or capacity from non-Resource Adequacy Resources or Resource Adequacy Resources with additional available capacity defined as Net Qualifying Capacity in excess of previously sold Resource Adequacy Capacity; however the Local Capacity Area Resource may be substituted only with capacity from non-Resource Adequacy Resources located in the same Local Capacity Area.

#### **40.6 Requirements Applicable to Scheduling Coordinators for Reserve Sharing LSEs and Resources Providing Resource Adequacy Capacity to Reserve Sharing LSEs.**

[This Section 40.6 does not apply to Resource Adequacy Resources of Load-following MSSs and those entities that participate in the Modified Reserve Sharing LSE program in Section 40.5. Scheduling Coordinators supplying Resource Adequacy Capacity shall make the Resource Adequacy Capacity listed in the Scheduling Coordinator's monthly Supply Plans under Section 40.4.7 available to the CAISO each hour of each day of the reporting month in accordance with this Section 40.6. [Hold for further discussion]

#### **40.6A Requirements Applicable to Resources providing Resource Adequacy Capacity**

This Section 40.6A (including Sections 40.6.1 through 40.6.11) establishes the obligations of a supplier of Net Qualifying Capacity that is contracted for use as Resource Adequacy Capacity and is registered as such in the Resource Adequacy Registry. These obligations are owed by the Resource Adequacy Resource (only to the extent of its Net Qualifying Capacity that has been contracted for use as Resource Adequacy Capacity and as such is registered in the Resource Adequacy Registry) and its Scheduling Coordinator to the CAISO and do not convey to or create any interest therein in holders of Resource Adequacy Capacity. Any nonperformance of such obligations may give rise to penalties owed to the CAISO pursuant exclusively to the provisions of Section 40.7. Any nonperformance of such obligations shall not disqualify use by a holder of Resource Adequacy Capacity that has been registered in the Resource Adequacy Registry

#### **40.6.1 Day-Ahead Availability.**

Scheduling Coordinators supplying Net Qualifying Capacity that is registered for use as Resource Adequacy Capacity in the Resource Adequacy Registry pursuant to Section 40.4.7 ~~Resource Adequacy Capacity~~ shall make ~~the such~~ Resource Adequacy Capacity, except for that subject to Section 40.6.4, available Day-Ahead to the CAISO as follows:

(1) Resource Adequacy Resources physically capable of operating must submit Economic Bids or Self-Schedules for their Resource Adequacy Capacity into the IFM and RUC.

(2) Any inter-temporal constraints such as Minimum Run Times must not be more restrictive than those pre-specified in the Master File limitations or as otherwise required by this CAISO Tariff or by Good Utility Practice.

(3) ~~Resource Adequacy Resources that do not submit Self-Schedules or Economic Bids reflecting all of their Resource Adequacy Capacity will be subject to the CAISO's optimization for the remainder of their Resource Adequacy Capacity Bids into the Day-Ahead Market. If the Resource Adequacy Resource submits a Bid for Ancillary Service(s), the Energy Bid associated with the Bid for Ancillary Services will be optimized by the CAISO.~~

(4) Resource Adequacy Resources ~~must participate in the RUC to the extent that that have the resource has~~ available Resource Adequacy Capacity that is not otherwise committed through

~~reflected in a Self-Schedule is already committed~~ to provide Energy or capacity in the IFM must participate in the RUC by submitting a zero dollar RUC Availability Bid. Compensation for such participation in RUC shall be as prescribed in [Tariff provision on RUC]. Resource Adequacy Resources will be subject to RUC and will be optimized at a zero dollar RUC Availability Bid.

(5) Capacity from Resource Adequacy Resources selected in RUC will not be eligible to receive a RUC Availability Payment but shall be compensated in accordance with rules prescribed in [Tariff provision on RUC].

(6) A non-local Resource from which Resource Adequacy Capacity has been conveyed and that is not on a forced outage or unavailable due to Force Majeure or curtailment by a Transmission Owner must be available for dispatch by the CAISO in 80 percent or more of the hours in a Month, and, if not so available shall be subject to penalties prescribed in Section 40.7.3.

\* \* \*

#### **40.6.3 Additional Availability Requirements for Short Start Units and Dynamic System Resource.**

Short Start Units and Dynamic System Resources, unless a Dynamic System Resource is demonstrated to be incapable of meeting the definition of a Short Start Unit based on physical operating characteristics, that supply Resource Adequacy Capacity not committed under Section 40.6.1, and therefore are subject to Section 40.6.2, must submit Economic Bids or Self-Schedules for the Resource Adequacy Capacity into the Real-Time Market.

The CAISO may waive these availability obligations for Short Start Units and Dynamic System Resources that have not submitted a Self-Schedule or otherwise been selected in the IFM or RUC based on the procedure to be published on the CAISO Website.

#### **40.6.4 Additional Availability Requirements for Use-Limited Resources.**

##### **40.6.4.1 Registration of Use-Limited Resources.**

Scheduling Coordinators for Use-Limited Resources, other than for hydro Generating Units, must provide the CAISO an application in the form specified on the CAISO Website requesting registration of a

specifically identified resource as a Use-Limited Resource. This application shall include specific operating data and supporting documentation including, but not limited to;

- 1) a detailed explanation of why the unit is subject to operating limitations;
- 2) historical data to show attainable MWhs for each 24-hour period during the preceding year, including, as applicable, environmental restrictions for NOx, SOx, or other factors; and
- 3) further data or other information as may be requested by the CAISO to understand the operating characteristics of the unit.

Within, five (5) Business Days upon receipt of the application, the CAISO will respond to the Scheduling Coordinator as to whether or not the CAISO agrees that the facility is eligible to be a Use-Limited Resource. If the CAISO determines the facility is not a Use-Limited Resource, the Scheduling Coordinator may challenge that determination in accordance with the CAISO ADR Procedures.

#### **40.6.4.2 Use Plan.**

With regard to Use-Limited Resources, the Scheduling Coordinator will provide by September for the following year, a proposed annual use plan for each Use-Limited Resource that is a Resource Adequacy Resource. The proposed annual use plan will delineate on a month-by-month basis the total MWhs of Generation, total run hours, expected daily supply capability (if greater than four hours) and the daily Energy limit, operating constraints, and the timeframe for each constraint. The CAISO will have an opportunity to discuss the proposed annual use plan with the Scheduling Coordinator and suggest potential revisions to meet reliability needs of the system. The Scheduling Coordinator shall then submit its final annual plan by October of each year. The Scheduling Coordinator will be able to update the projections made in the annual use plan in the monthly Resource Adequacy Plans. Hydro Generating Units will be able to update use plans intra-monthly as necessary to reflect evolving hydrological and meteorological conditions. The annual use plan must reflect the potential operation of the Use-Limited Resource at a level no less than the minimum criteria set forth by the Local Regulatory Authority for qualification of the resource.

#### **40.6.4.3 Bidding Requirements on Use-Limited Resources.**

##### **40.6.4.3.1 Non-Hydro and Dispatchable Use-Limited Resources.**

Use-Limited Resources, other than those subject to the provisions of 40.6.4.3.2, must submit a Supply Bid or Self-Schedule for their Resource Adequacy Capacity in the Day-Ahead Market whenever the Use-Limited Resources are physically capable of operating in accordance with their operating criteria, including environmental or other regulatory requirements. Use-Limited Resources will also provide a daily Energy limit as part of their Day-Ahead Market offer to enable the CAISO to schedule them for the period in which they are capable of providing the Energy. To the extent that the daily Energy limit has been reached through Self-Schedules, no further action is necessary by the CAISO, unless rescheduling of the Energy is necessary for System Reliability. Use-Limited Resources will attempt to reschedule the Energy in recognition of the System Reliability concern, to the extent that the change is possible without violating a Use-Limited Resource's operating criteria.

#### **40.6.4.3.2 Hydro and Non-Dispatchable Use-Limited Resources.**

Hydro resources and Non-Dispatchable Use-Limited Resources shall submit Self-Schedules or Bids in the Day-Ahead Market for their expected available Energy or their expected as-available Energy, as applicable, in the Day-Ahead Market and HASP. Such resources shall also revise their Self-Schedules or submit additional Bids in HASP based on the most current information available regarding expected Energy deliveries. Hydro resources and Non-Dispatchable Use-Limited Resources will not be subject to commitment in the RUC process. The CAISO will retain discretion as to whether a particular resource should be considered a Non-Dispatchable Use-Limited Resource, and this decision will be made in accordance with the provisions of Section 40.6.4.1.

#### **40.6.4.3.3 Availability of Use-Limited Resources During System Emergencies.**

All Use-Limited Resources remain subject to Section 7.7.2.3 regarding System Emergencies to the extent the Use-Limited Resource is owned or controlled by a Participating Generator.

#### **40.6.4.3.4 Availability of Intermittent Resources.**

Any Eligible Intermittent Resource that provides Resource Adequacy Capacity may, but is not required to, submit Bids in the Day-Ahead Market.

#### **40.6.5 Additional Availability Requirements for System Resources.**

In the IFM, the multi-hour block constraints of a System Resource that is not capable of submitting a Dynamic Schedule are honored in the optimization. Multi-hour block System Resources that are not capable of submitting a Dynamic Schedule and are Resource Adequacy Resources must be capable of hourly selection by the CAISO in RUC if not fully committed in the IFM. If selected in the RUC, the System Resource must be dispatchable in those hours in the HASP and Real Time Market. For existing System Resources with a call-option that expires prior to the completion of the IFM, such System Resources listed on a Resource Adequacy Plan must be reported to the CAISO for consideration in any CAISO Extremely Long-Start Resource commitment process.

**40.6.5.1 Additional Availability Requirements for Dynamic Resource-Specific System Resources.**

A Dynamic Resource-Specific System Resource that supplies Resource Adequacy Capacity will be subject to either Section 40.6.3 as a Short Start Unit or Section 40.6.7 as a Long Start Unit based upon the Dynamic Resource-Specific System Resource's registered physical operating characteristics.

**40.6.6 Availability Requirements for Partial Resource Adequacy Resources.**

Only that output of a Partial Resource Adequacy Resource that is designated by a Scheduling Coordinator as Resource Adequacy Capacity in its monthly or annual Resource Adequacy Plan shall have an availability obligation to the CAISO. Exports being supported by non-Resource Adequacy Capacity from a Partial Resource Adequacy Resource that becomes unavailable or unusable shall be considered as an export of non-Resource Adequacy Capacity based on the pro-rata allocation of derated capacity of the Partial Resource Adequacy Resource as follows:

- a. Resource Adequacy Capacity – [(Resource Adequacy Capacity/Pmax Capacity of Resource Adequacy Resource) x MW Derate or Outage]; or
- b. [1- (Resource Adequacy Capacity/Pmax Capacity of Resource Adequacy Resource)] x De-rated Pmax]. [\[Note: this formula is new in the CAISO-amended MRTU\]](#)

**40.6.7 Availability Requirements for Long Start Units.**

**40.6.7.1 Release of Long Start Units.**

Long Start Units not committed in the Day-Ahead Market will be released from any further obligation to submit Self-Schedules or Bids for the relevant Operating Day. Scheduling Coordinators for Long Start Units are not precluded from self-committing the unit after the Day-Ahead Market and submitting a Self-Schedule for Wheeling-Out in the HASP, unless precluded by terms of their contracts.

#### **40.6.7.2      Obligation of Long Start Units to Offer Remaining Capacity in Real-Time.**

Long Start Units that have been committed by the CAISO in the Day-Ahead Market or the RUC for part of their Resource Adequacy Capacity or have submitted a Self-Schedule for part of their Resource Adequacy Capacity must remain available to the CAISO to the extent of such committed Resource Adequacy Capacity, through Real-Time ~~for the full value of their Resource Adequacy Capacity~~.

#### **40.6.8      Use of Default Energy Bids.**

Prior to completion of the Day-Ahead Market, the CAISO will determine if dispatchable Resource Adequacy Capacity from Resource Adequacy Resources has not been reflected in a Bid and will insert a Default Energy Bid for any dispatchable Resource Adequacy Capacity that is not reflected in a Bid into the CAISO Day-Ahead Market and for which the CAISO has not received notification of an Outage. In addition, the CAISO will determine if all dispatchable Resource Adequacy Capacity from Short Start Units, not otherwise selected in the IFM or RUC, is reflected in a Bid into the HASP and will insert a Default Energy Bid for any remaining dispatchable Resource Adequacy Capacity for which the CAISO has not received notification of an Outage.

#### **40.6.9      Availability Requirements for Grandfathered Firm Liquidated Damages Contracts.**

Resource Adequacy Capacity represented by a Firm Liquidated Damages Contract and relied upon by a Scheduling Coordinator in a monthly or annual Resource Adequacy Plan shall be submitted as a Self-Schedule or Bid in the Day-Ahead IFM to the extent such scheduling right exists under the Firm Liquidated Damages Contract. For purposes of this Section, Firm Liquidated Damages Contracts are those transactions utilizing or consistent with Service Schedule C of the Western Systems Power Pool Agreement or the Firm Liquidated Damages product of the Edison Electric Institute pro forma agreement, or any other similar firm energy contract that does not require the seller to source the Energy from a particular unit, and specifies a delivery point internal to the CAISO Control Area.



\* \* \*

**40.6.11 Curtailment of Exports in Emergency Situations.**

At its sole discretion, the CAISO may curtail exports from a Resource Adequacy Capacity to prevent or alleviate a System Emergency. Any such curtailment shall not cause the Resource Adequacy Capacity to be deemed unavailable for purposes of Section 40.7.3.

\* \* \*

**40.7 Compliance.**

The CAISO will evaluate whether each annual or monthly Resource Adequacy Plan submitted by a Scheduling Coordinator on behalf of a Load Serving Entity serving Load within the CAISO Control Area satisfies the Load Serving Entity's obligation to procure sufficient Net Qualifying Capacity to comply with its applicable Reserve Margin(s). The Scheduling Coordinator acquiring Resource Adequacy Capacity may rely on the availability of such Capacity registered in the Resource Adequacy Registry maintained under Section 40.4.7. If a Scheduling Coordinator for a Load Serving Entity submits a Resource Adequacy Plan that the CAISO identifies as not demonstrating compliance with resource adequacy rules adopted by the CPUC, Local Regulatory Authority, or federal agency, as applicable, the CAISO will first notify the relevant Scheduling Coordinator, ~~or in the case of a mismatch between Resource Adequacy Plan(s) and Supply Plan(s), the relevant Scheduling Coordinators,~~ and attempt to resolve the issue. If this process does not resolve the CAISO's concern, the CAISO will notify the CPUC, Local Regulatory Authority, or federal agency, as appropriate, of the potential deficiency. At least ten (10) days prior the effective month, the Scheduling Coordinator for the Load Serving Entity shall (i) demonstrate that the identified deficiency is cured by submitting a revised Resource Adequacy Plan or (ii) advise the CAISO that the CPUC, Local Regulatory Authority, or federal agency, as appropriate, has determined that no deficiency exists. In the case of a mismatch between Resource Adequacy Plan(s) and ~~Supply Plan(s)~~the Resource Adequacy Registry, if resolved, the relevant Scheduling Coordinator(s) must provide the CAISO with revised Resource Adequacy Plan(s) ~~or Supply Plans, as applicable,~~ at least ten (10) days prior to the effective month. If the CAISO is not advised that the deficiency or mismatch resolved at least ten (10) days prior to the effective month, the CAISO will use the information contained in the ~~Supply~~

~~Plan~~[Resource Adequacy Registry](#) to set Resource Adequacy Resources' obligations under this Section 40 and/or to assign any costs incurred under this Section 40.

#### **40.7.1 Other Compliance Issues.**

Scheduling Coordinators representing Generating Units, System Units or System Resources supplying Resource Adequacy Capacity that fail to provide the CAISO with ~~an annual and/or monthly Resource Adequacy Plan~~[information required under this Section 40 and applicable provisions of the Business Practice Manual](#), as applicable, ~~as set forth in Section 40.7~~, shall be subject to Section 37.6.1. Further, Scheduling Coordinators representing Generating Units, System Units or System Resources supplying Resource Adequacy Capacity that fail to provide the CAISO with information required for the CAISO to determine Net Qualifying Capacity shall not be eligible for inclusion in the Net Qualifying Capacity annual report under Section 40.4.2 for the next RA Compliance Year and may be subject to ~~Sanctions~~[Penalties](#) under Section 37.6.1.

#### **40.7.2 Penalties for Non-Compliance.**

The failure of a Resource Adequacy Resource or Resource Adequacy Capacity to ~~be available~~[perform its obligations](#) to the CAISO in accordance with the requirements of ~~this Section 40.6, other than Section 40.6.1(6), and/or to operate the Resource Adequacy Resource by placing it online and/or in a manner consistent with a submitted Bid or Default Energy Bid~~ shall be subject to the ~~Sanctions~~[Penalties](#) set forth in Section 37.2. [The failure of a Resource that has provided Resource Adequacy Capacity to be available to the CAISO in accordance with the requirements of Section 40.6.1\(6\) shall be subject exclusively to Penalties set forth in Section 40.7.3.](#)

\_\_\_\_\_ However, any failure of the Resource Adequacy Resource to perform any obligations prescribed under this Section 40 during a RA Compliance Year for which Resource Adequacy Capacity has been conveyed to a Load Serving Entity shall not disqualify in any way, except as otherwise established under provisions of the CPUC, Local Regulatory Authority, or federal agency, as applicable, the ability of the Load Serving Entity to whom the Resource Adequacy Capacity has been conveyed to use such Resource Adequacy Capacity for purposes of satisfying its resource adequacy obligations to the CPUC, Local Regulatory Authority, or federal agency, as applicable. [Nor shall such Load Serving Entity be subject to](#)

or have any interest in any Penalties imposed on the Resource as a result of its failure to so perform its obligations prescribed under this Section 40. Nor shall a Reserve Sharing LSE be subject to any sanctions, penalties, or other compensatory obligations under this Section 40 on account of the Resource Adequacy Resource's performance or non-performance of its obligations under this Section 40.

#### **40.7.3 Availability Test and Penalty**

A non-local Resource from which Resource Adequacy Capacity has been conveyed and that is not on a forced outage or unavailable due to Force Majeure or curtailment by a Transmission Owner, and that, to the extent of such Resource Adequacy Capacity is not available for dispatch by the CAISO in 80 percent or more of the hours in a Month, as required under Section 40.6.1(6), shall be subject exclusively to Penalties prescribed in this Section 40.7.3.

If such non-local Resource Adequacy Capacity is available for dispatch less than 80 percent of the hours in a Month, but is available for dispatch in 50 percent or more of the hours in a Month, the Resource shall be subject to penalty in the amount of the product of (a) the percentage of hours of unavailability, (b) the amount of Resource Adequacy Capacity that has been conveyed and registered in the Net Qualifying Capacity Registry, and (c) the Proxy Price for such month. If such non-local Resource Adequacy Capacity is available for dispatch less than 50 percent of the hours in a Month, the Resource shall be subject to penalty in the amount of the product of (a) the amount of Resource Adequacy Capacity that has been conveyed and registered in the Net Qualifying Capacity Registry, and (b) the Proxy Price for such month<sup>1</sup>. The Proxy Price shall mean the lesser of (a) \$40/kW-year divided by 12<sup>1</sup> or (b) such replacement price that the ISO verifies it has incurred, acting in a commercially reasonable manner, to purchase replacement Resource Adequacy Capacity. Notwithstanding the foregoing, a supplier of such Resource Adequacy Capacity may substitute another Resource, or portion thereof, not previously committed and available in the Net Qualifying Capacity Registry to meet its availability obligations for purposes of the availability test prescribed in Section 40.6.1(6) and for purposes of the calculation of penalty amounts under this Section 40.7.3. For all purposes of Section 40.6.1(6) and this Section 40.7.3, Resource Adequacy Capacity shall not be deemed unavailable for dispatch, if due to a forced outage.

<sup>1</sup> [The penalty could be applied on a daily basis and capped at the monthly payment amount (i.e., \$3.33/kW-month), which would provide an incentive for units to return to service before a month's end.

Force Majeure event, or curtailment by a Transmission Owner or, in the case of system RA, if due to a major maintenance project the scheduling of which in non-summer periods is approved in advance by the CAISO pursuant to its Outage Protocol.

The penalty amounts imposed against a Resource under this Section 40.7.3 shall be collected by the CAISO and shall be applied first against any costs incurred by the ISO in making replacement purchases of Resource Adequacy Capacity and, to the extent such penalty funds are not so utilized during the applicable compliance period, all such amounts shall be distributed to those to whom costs are allocable under Section 42.

#### **40.8 CAISO Default Qualifying Capacity Criteria.**

##### **40.8.1 Applicability.**

The criteria in this Section 40.8 shall apply only: (i) where the CPUC or Local Regulatory Authority has not established and provided to the CAISO criteria to determine the types of resources that may be eligible to provide Qualifying Capacity and for calculating Qualifying Capacity for such eligible resource types and (ii) until the CAISO has been notified in writing by the CPUC of its intent to overturn, reject or fundamentally modify the capacity-based framework in CPUC Decisions 04-01-050 (Jan. 10, 2004), 04-10-035 (Oct. 28, 2004), and 05-10-042 (Oct. 31, 2005). The types of resources specified in this Section 40.8.1 will be eligible to provide Qualifying Capacity to the extent they meet the criteria for each type of resource set forth in this Section 40.8.1.

##### **40.8.1.2 Nuclear and Thermal.**

Nuclear and thermal Generating Units, other than Qualifying Facilities with effective contracts under the Public Utility Regulatory Policies Act addressed in Section 40.8.1.8 below, must be a Participating Generator or a System Unit. The Qualifying Capacity of nuclear and thermal units, other than Qualifying Facilities addressed in Section 40.8.1.8, will be based on net dependable capacity defined by NERC Generating Availability Data System information.

##### **40.8.1.3 Hydro.**

Hydroelectric Generating Units, other than Qualifying Facilities with contracts under the Public Utility Regulatory Policies Act, must be either Participating Generators or System Units. The Qualifying Capacity of a pond or Pumped Storage Hydro Unit, other than a QF, will be determined based on net dependable capacity defined by NERC GADS minus variable head derate based on an average dry year reservoir level. The Qualifying Capacity of a pond or Pumped Storage Hydro Unit that is a QF will be determined based on historic performance during the hours of noon to 6:00 p.m., using a three-year rolling average.

The Qualifying Capacity of all run-of-river hydro units, including Qualifying Facilities, will be based on net dependable capacity defined by NERC GADS minus an average dry year conveyance flow, stream flow, or canal head derate. As used in this section, average dry year reflects a one-in-five year dry hydro scenario (for example, using the 4th driest year from the last 20 years on record).

\* \* \*

#### **40.8.1.5 Contracts with Liquidated Damage Provisions.**

Firm energy contracts with liquidated damages provisions, as generally reflected in Service Schedule C of the Western Systems Power Pool Agreement or the Firm LD product of the Edison Electric Institute pro forma agreement, or any other similar firm energy contract that does not require the seller to source the Energy from a particular unit, and specifies a delivery point internal to the CAISO Control Area entered into before October 27, 2005 shall be eligible to count as Qualifying Capacity until the end of 2008. A Scheduling Coordinator, however, cannot have more than 75% of its portfolio of Qualifying Capacity met by contracts with liquidated damage provisions for 2006. This percentage will be reduced to 50% for 2007 and 25% for 2008.

#### **40.8.1.6 Wind and Solar.**

As used in this Section, wind units are those wind Generating Units without backup sources of Generation and solar units are those solar Generating Units without backup sources of generation. Wind and solar units, other than Qualifying Facilities with effective contracts under the Public Utility Regulatory Policies Act, must be Participating Intermittent Resources or subject to availability provisions of Section 40.6.4.3.4.

The Qualifying Capacity of all wind or solar units, including Qualifying Facilities, for each month will be based on their monthly historic performance during that same month during the hours of noon to 6:00 p.m., using a three-year rolling average.

#### **40.8.1.7 Geothermal.**

Geothermal Generating Units, other than Qualifying Facilities addressed in Section 40.8.1.8, must be Participating Generators or System Units. The Qualifying Capacity of geothermal units, other than Qualifying Facilities addressed in Section 40.8.1.8, will be based on NERC GADS net dependable capacity minus a derate for steam field degradation.

#### **40.8.1.8 Treatment of Qualifying Capacity for Qualifying Facilities.**

Qualifying Facilities must be Participating Generators (signed a Participating Generator or QF Participating Generator Agreement) or System Units, unless they have a PURPA contract. Except for hydro, wind, and solar Qualifying Facilities addressed pursuant to Sections 40.8.1.3 and 40.8.1.6, the Qualifying Capacity of Qualifying Facilities under PURPA contracts, will be based on historic monthly Generation output during the hours of noon to 6:00 p.m. (net of Self-Provided Load) during a three-year rolling average.

#### **40.8.1.9 Participating Loads.**

The Qualifying Capacity of Participating Loads shall be the average reduction in Demand over a three-year period on a per Dispatch basis or, if the Participating Load does not have three years of performance history, based on comparable evaluation data using similar programs. Participating Loads must be available at least 48 hours, and if the Participating Loads can only be dispatched for a maximum of two hours per event, then only 89 percent of a Scheduling Coordinator's portfolio may be made up of such Participating Loads.

#### **40.8.1.10 Jointly-Owned Facilities.**

A jointly-owned facility must be either a Participating Generator or a System Unit. The Qualifying Capacity for the entire facility will be determined based on the type of resource as described elsewhere in this Section 40.8.1. In addition, the Scheduling Coordinator must provide the CAISO with a

demonstration of its entitlement to the output of the jointly-owned facility's Qualified Capacity and an explanation of how that entitlement may change if the facility's output is restricted.

#### **40.8.1.11 Facilities under Construction.**

The Qualifying Capacity for facilities under construction will be determined based on the type of resource as described elsewhere in this Section. In addition, the facility must have been in commercial operation for no less than one month to be eligible to be included as a Resource Adequacy Resource in a Scheduling Coordinator's monthly Resource Adequacy Plan.

#### **40.8.1.12 System Resources.**

##### **40.8.1.12.1 Dynamic System Resources.**

Dynamic System Resources shall be treated similar to resources within the CAISO Control Area, except with respect to the deliverability screen under Section 40.4.6.1. However, eligibility as a Resource Adequacy Resource is contingent upon a showing by the Scheduling Coordinator that the Dynamic System Resource has secured transmission through any intervening Control Areas for the Operating Hours that cannot be curtailed for economic reasons or bumped by higher priority transmission and that the Load Serving Entity for which the Scheduling Coordinator is submitting Demand Bids has an allocation of import capacity at the import Scheduling Point under Section 40.4.6.2 that is not less than the Resource Adequacy Capacity provided by the Dynamic System Resource.

##### **40.8.1.12.2 Non-Dynamic System Resources.**

For Non-Dynamic System Resources, the Scheduling Coordinator must demonstrate that the Load Serving Entity for which the Scheduling Coordinator is scheduling Demand has an allocation of import capacity at the import Scheduling Point under Section 40.4.6.2 that is not less than the Resource Adequacy Capacity from the Non-Dynamic System Resource. The Scheduling Coordinator must also demonstrate that the Non-Dynamic System Resource is covered by Operating Reserves, unless unit contingent, in the sending Control Area. Eligibility as Resource Adequacy Capacity would be contingent upon a showing by the Scheduling Coordinator of the System Resource that it has secured transmission through any intervening Control Areas for the Operating Hours that cannot be curtailed for economic reasons or bumped by higher priority transmission. With respect to Non-Dynamic System Resources,

any inter-temporal constraints, such as multi-hour run blocks, must be explicitly identified in the monthly Resource Adequacy Plan, and no constraints may be imposed beyond those explicitly stated in the plan.

#### **41. Procurement of RMR.**

\* \* \*

**41.3** On a yearly basis, the CAISO will carry out technical evaluations, including the technical study under 40.3.1, as augmented, as necessary, to ensure compliance with Reliability Criteria, including, but not limited to, requirements relating to Black Start, dual fuel, or Voltage Support requirements in order to maintain the reliability of the CAISO Controlled Grid in the next year. The CAISO will then determine which Generating Units it requires to continue to be Reliability Must-Run Units, which Generating Units it no longer requires to be Reliability Must-Run Units and which Generating Units it requires to become the subject of a Reliability Must-Run Contract which had not previously been so contracted to the CAISO. None of the Generating Units owned by Local Publicly Owned Electric Utilities are planned to be designated as Reliability Must-Run Units by the CAISO as of the CAISO Operations Date but are expected to be operated in such a way as to maintain the safe and reliable operation of the interconnected transmission system comprising the CAISO Control Area. However, in the future, Local Publicly Owned Electric Utilities may contract with the CAISO to provide Reliability Must-Run Generation.

\* \* \*

#### **42 Assurance of Adequate Generation and Transmission to meet Applicable Operating and Planning Reserve.**

##### **42.1 Generation Planning Reserve Criteria.**

\* \* \*

**42.1.8** Except where and to the extent that such costs are recovered from Scheduling Coordinators pursuant to Section 8, all costs incurred by the CAISO pursuant to any contract entered into pursuant to Section 42.1 for Resource Adequacy Capacity, other than Local Capacity Area Resources, shall be charged on a pro rata basis to each Scheduling Coordinator based on each Scheduling Coordinator's relative amount of deficiency to satisfy the Scheduling Coordinator's applicable Demand Forecast and Reserve Margin pursuant to Section 40 up to the quantity of the Scheduling Coordinator's



deficiency as determined as the difference between the Scheduling Coordinator's applicable Demand Forecast and Reserve Margin and Resource Adequacy Resources included in the annual or monthly Resource Adequacy Plan.

Whether or not the share of the Resource Adequacy Capacity procured by the CAISO under this Section may count towards satisfaction of a Load Serving Entity's Reserve Margin shall be determined by the CPUC, Local Regulatory Authority, or federal agency with jurisdiction of the Load Serving Entity, unless the CPUC, Local Regulatory Authority, or federal agency has failed to establish a Reserve Margin, in which case the CAISO will assign the Load Serving Entity's share of the Resource Adequacy Capacity towards satisfaction of its Reserve Margin.

\* \* \*

## APPENDIX A

\* \* \*

### **Local Regulatory Authority (LRA)**

The state or local governmental authority, or governing board of an electric cooperative organized under the National Rural Electrical Cooperative Act, responsible for the regulation or oversight of a utility.

\* \* \*

### **RA Compliance Year**

A calendar year from January 1 through December 30.

\* \* \*

### **Supply Plan Resource Adequacy Capacity**

Net Qualifying Capacity of a Resource that has been verified and included in an annual report posted by the CAISO pursuant to Section 40.4.2 and that has been conveyed for compliance use and registered as such in the Resource Adequacy Registry maintained under Section 40.4.7. A submission by a Scheduling Coordinator for a Resource Adequacy Resource in order to satisfy the requirements of Section 40.

\* \* \*

MASTER POWER PURCHASE AND SALE AGREEMENT  
CALIFORNIA RESOURCE ADEQUACY CONFIRMATION LETTER

This California Resource Adequacy Confirmation Letter (the “Confirmation Letter”), executed as of \_\_\_\_\_ (the “Execution Date”), shall document the negotiated transaction (this “Transaction”) between [ ] (“Seller”) and [ ] (“Buyer”), together the “Parties”. This Confirmation Letter and the Transaction are governed by the Edison Electric Institute Master Purchase And Sale Agreement, effective as of \_\_\_\_\_, along with any amendments and annexes thereto (the “Master Agreement”). Capitalized terms not otherwise defined in this Confirmation Letter have the meaning specified in the Master Agreement. In the event of a conflict between this Confirmation Letter and the Master Agreement, the terms of this Confirmation Letter shall control.

Product: The Resource Adequacy Capacity set forth in the Resource Adequacy Certificate attached hereto as Exhibit A from the Resource specified therein

SELLER IS PROVIDING NO SERVICES OF ANY KIND TO BUYER, OTHER THAN CONVEYING TO BUYER THE CONTRACT QUANTITY OF RESOURCE ADEQUACY CAPACITY IDENTIFIED IN THIS RESOURCE ADEQUACY CERTIFICATE FOR USE BY BUYER IN CONNECTION WITH ITS CPUC OR CAISO RA SHOWINGS, IF AND SO PERMITTED. THE SALE, TRANSFER, DEDICATION AND/OR COMMITMENT OF THE CONTRACT QUANTITY OF RESOURCE ADEQUACY CAPACITY IDENTIFIED IN THIS RESOURCE ADEQUACY CERTIFICATE DOES NOT CONFER ON BUYER ANY RIGHT TO ANY ENERGY OR ANCILLARY SERVICES ASSOCIATED WITH SUCH CONTRACT QUANTITY, AND SELLER HAS NO OBLIGATION TO MAKE SUCH ENERGY OR ANCILLARY SERVICES AVAILABLE TO BUYER. SELLER RETAINS THE RIGHT TO SELL, TRANSFER, DEDICATE OR COMMIT ANY NET QUALIFYING CAPACITY FROM A RESOURCE IN EXCESS OF THAT CONTRACT QUANTITY FOR ANY PURPOSE WHATSOEVER. BUYER HAS NO CLAIM UPON ANY REVENUES, WHETHER AS A CREDIT OR OTHERWISE, ASSOCIATED WITH OPERATION OF THE RESOURCE.<sup>1</sup>

<sup>1</sup> Note that if the CAISO makes payments pursuant to tariff provisions (such as RMR, RCST, or a successor to RCST) to an RA Capacity supplier for the same NQC that is conveyed through the original sale of RA Capacity in this Confirmation, such payments should not result in the RA Capacity supplier being paid twice for the same product. Such double payment shall be precluded in accordance with applicable CAISO tariff provisions or through a revision to this illustrative Confirmation Letter.

SELLER MAY RETAIN FOR ITS OWN ACCOUNT ANY REVENUE IT RECEIVES ASSOCIATED WITH THE RESOURCE, INCLUDING, WITHOUT LIMITATION, COST REIMBURSEMENTS AND/OR REVENUES THAT ARE: (1) ASSOCIATED WITH THE START-UP, SHUT-DOWN, OR MINIMUM LOAD COSTS OF THE RESOURCE, (2) CAPACITY REVENUES ASSOCIATES WITH THE SALE OF ENERGY DISPATCH RIGHTS, INCLUDING ANCILLARY SERVICES, FROM THE RESOURCE, (3) DERIVED FROM CAPACITY SALES ASSOCIATED WITH THE SALE OF ANCILLARY SERVICES TO THE CAISO, AND (4) DERIVED FROM ENERGY SALES FROM THE RESOURCE.

BUYER SHALL NOT BE RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH OPERATION OF THE RESOURCE NOR FOR COMPENSATING SELLER FOR SELLER'S COMMITMENTS TO THE CAISO ASSOCIATED WITH THE SALE, TRANSFER, DEDICATION AND/OR COMMITMENT OF THE RESOURCE ADEQUACY CAPACITY PURSUANT TO THIS CONFIRMATION LETTER AS SET FORTH IN THE RESOURCE ADEQUACY CERTIFICATE.

Contract Quantity:	_____ MWs of the Resource Adequacy Capacity set forth in the Resource Adequacy Certificate.
Contract Term:	[January 1, 2009 – December 31, 2009 or any month therein]
Contract Price:	\$ _____/kW-month. The Price shape table may be elected in Exhibit B, <input type="checkbox"/> Pay-In-Full on [Date] <input type="checkbox"/> Installment Payment pursuant to the terms of the Payment Schedule attached hereto as Exhibit C.
Resource Adequacy Certificate Delivery	On or before [Date] (the "Certificate Delivery Date"), Seller shall deliver to Buyer a duly authorized and executed Resource Adequacy Certificate in the form attached hereto as Exhibit A.
Regulatory Cooperation:	Seller and Buyer agree to cooperate in good faith and use commercially reasonable efforts to effect the purpose of this Confirmation Letter, including the execution of additional documentation that may be required by the CPUC or the CAISO. Notwithstanding the foregoing, nothing herein shall require Seller to modify any aspect of the Resource identified in the Resource Adequacy Certificate.
Resource Adequacy Capacity Registry:	On or before the Certificate Delivery Date, Seller shall notify [the RA Registry Agent] that the Contract Quantity of the Resource Adequacy Capacity set forth in the Resource

Adequacy Certificate sold to Buyer pursuant to this Confirmation Letter, has been transferred to Buyer. Seller shall provide Buyer with written confirmation that the RA Registry Agent has been provided such notice.

Seller Representations,  
Warranties, and Covenants:

In addition to the representations and warranties set forth in the Section 10.2 of the Master Agreement, Seller specifically represents, warrants and covenants as of the Certificate Delivery Date that:

- 1) The Resource Adequacy Certificate delivered to Buyer has been executed by a duly authorized individual and the incumbency of the individual is hereby certified by Seller;
- 2) The Contract Quantity of Resource Adequacy Capacity sold to Buyer pursuant to the Confirmation Letter and set forth in the Resource Adequacy Certificate delivered by Seller to Buyer does not exceed the quantity of Resource Adequacy Capacity registered to Seller in the RA Registry and has not been and shall not be sold, pledged, hypothecated or assigned to any party other than Buyer. Seller has good and marketable title to the Contract Quantity of the Resource Adequacy Capacity, free and clear of all mortgages, liens, security interests, pledges, charges, encumbrances, or claims of any nature except as created by this Confirmation Letter, and Seller has full right, power and authority to sell, transfer and deliver such Resource Adequacy Capacity.
- 3) Seller has complied with any and all obligations regarding the sale, transfer or commitment of Resource Adequacy Capacity imposed by any applicable tariff, order or law regarding the same, and the sale, transfer or commitment of the Contract Quantity of Resource Adequacy Capacity identified in the Resource Adequacy Certificate delivered to Buyer does not violate any agreement, indenture or other requirement or obligation of Seller.

Subsequent Transfer of  
Resource Adequacy Capacity:

Nothing in this Confirmation Letter, the Master Agreement or the Resource Adequacy Certificate shall limit or restrict Buyer's ability to sell, assign, transfer or commit the Contract Quantity, or any portion thereof, of the Resource Adequacy Capacity described in the Resource Adequacy Certificate and sold pursuant to this Confirmation Letter; provided, however, that such sale, assignment, transfer or commitment shall not relieve Buyer of its obligation to make payment to Seller

without the written agreement by Seller.

Limited Indemnification:

Seller shall indemnify and hold Buyer harmless for any penalties or charges imposed by either the CPUC or the CAISO if after the Certificate Delivery Date, it is found that Seller breached any of the representations and warranties set forth in Section 10.2 of the Master Agreement or the representations, warranties and covenants set forth in this Confirmation Letter.

Buyer shall indemnify and hold Seller harmless for any penalties or charges imposed by either the CPUC or the CAISO if Buyer causes any portion of the Contract Quantity to be 'double sold'.

Damages:

For non-delivery of the Contract Quantity or other breach hereof, [select measure of liquidated damages]

Modification

This Agreement may not be modified, nor shall a waiver of any provision of this Agreement be effective, unless in writing and signed by both Parties. No modification will be effective if it were to require FERC or CPUC approval, absent such approval. The Parties intend that any other modification of this Agreement shall be subject to the *Mobile-Sierra* "public interest" standard.

Seller

Buyer

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

# EXHIBIT A - RESOURCE ADEQUACY CERTIFICATE

In connection with that certain Confirmation Letter dated [\_\_\_\_], by and between [\_\_\_\_] ("Seller"), and [\_\_\_\_] ("Buyer"), the undersigned authorized agent of Seller, for and on behalf of Seller, certifies, as of [Date], as follows:

1. Buyer has the right to claim for use \_\_\_\_\_ MWs of Resource Adequacy Capacity for the months of [\_\_\_\_] through [\_\_\_\_] from the Resource described in Paragraph 2 below solely in connection with its CPUC RA Showings:

2. The following information concerning the Resource and the Resource Adequacy Capacity is accurate as of the date of the Confirmation Letter :

Name: \_\_\_\_\_

Location: \_\_\_\_\_

CAISO Resource ID: \_\_\_\_\_

Unit SCID: \_\_\_\_\_

If applicable, certified for use as Local RA in: [insert locality]

If applicable, certified for use as Zonal RA in: [insert CAISO zone]

Resource Type: \_\_\_\_\_

Resource Top Down Category (1,2, 3 or 4): \_\_\_\_\_

Point of interconnection with the CAISO Controlled Grid ("Substation"):[not relevant]

Current CAISO Zone (NP15, ZP26, or SP15) in which Substation resides: \_\_\_\_\_

The Net Qualifying Capacity of the Resource for the CAISO Compliance Period is no less than \_\_\_\_\_ MW.

3. The Contract Quantity of Resource Adequacy Capacity sold to Buyer pursuant to the Confirmation Letter and set forth in this Resource Adequacy Certificate have not been and shall not be (i) sold, pledged, hypothecated or assigned to any party other than Buyer or (ii) committed, dedicated or otherwise referenced to satisfy any resource adequacy, or analogous obligations of any other person whether in the CAISO or in any non-CAISO market. Seller has good and marketable title to such Contract Quantity of Resource Adequacy Capacity, free and clear of all mortgages, liens, security interests, pledges, charges, encumbrances, or claims of any nature except as created by the Confirmation Letter, and Seller has full right, power and authority to sell, transfer and deliver such Resource Adequacy Capacity to Buyer.
4. THE SALE, TRANSFER, DEDICATION AND/OR COMMITMENT OF THE CONTRACT QUANTITY OF RESOURCE ADEQUACY CAPACITY IDENTIFIED IN THIS RESOURCE ADEQUACY CERTIFICATE DOES NOT CONFER ON BUYER ANY RIGHT TO ANY ENERGY OR ANCILLARY SERVICES ASSOCIATED WITH THE SUCH CONTRACT QUANTITY, AND SELLER HAS NO OBLIGATION TO

MAKE SUCH ENERGY OR ANCILLARY SERVICES AVAILABLE TO BUYER SELLER RETAINS THE RIGHT TO SELL, TRANSFER, DEDICATE OR COMMIT ANY NET QUALIFYING CAPACITY FROM A RESOURCE IN EXCESS OF THAT CONTRACT QUANTITY FOR ANY PURPOSE WHATSOEVER. SELLER MAY RETAIN FOR ITS OWN ACCOUNT ANY REVENUE IT RECEIVES THAT IS: (1) ASSOCIATED WITH THE START-UP, SHUT-DOWN, OR MINIMUM LOAD COSTS OF THE RESOURCE, (2) CAPACITY REVENUE ASSOCIATED WITH THE SALE OF ENERGY DISPATCH RIGHTS, INCLUDING ANCILLARY SERVICES, FROM THE RESOURCE, (3) DERIVED FROM CAPACITY SALES ASSOCIATED WITH THE SALE OF ANCILLARY SERVICES TO THE CAISO, AND (4) DERIVED FROM ENERGY SALES FROM THE RESOURCE.

5. BUYER SHALL NOT BE RESPONSIBLE FOR COMPENSATING SELLER FOR SELLER'S COMMITMENTS TO THE CAISO ASSOCIATED WITH THE SALE, TRANSFER, DEDICATION AND/OR COMMITMENT OF THE RESOURCE ADEQUACY CAPACITY PURSUANT TO THE CONFIRMATION LETTER AS SET FORTH IN THIS RESOURCE ADEQUACY CERTIFICATE. BUYER SHALL HAVE NO INTEREST, AS A RESULT OF THE CONVEYANCE OF RESOURCE ADEQUACY CAPACITY ASSOCIATED WITH THE RESOURCE, IN SELLER'S PERFORMANCE OF ITS COMMITMENTS TO THE CAISO ASSOCIATED WITH THE SALE, TRANSFER, DEDICATION AND/OR COMMITMENT OF THE RESOURCE ADEQUACY CAPACITY.

[Seller's Agent]

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**CERTIFICATE OF SERVICE**

I, Judy Pau, certify:

I am employed in the City and County of San Francisco, California, am over eighteen years of age and am not a party to the within entitled cause. My business address is 505 Montgomery Street, Suite 800, San Francisco, California 94111-6533.

On November 16, 2007, I caused the following to be served:

**PROPOSAL OF CALPINE CORPORATION, CORAL POWER, L.L.C.,  
CONSTELLATION ENERGY COMMODITIES GROUP, INC., CONSTELLATION  
NEWENERGY, INC., J. ARON & COMPANY, PACIFIC GAS AND ELECTRIC  
COMPANY, STRATEGIC ENERGY, L.L.C., ALLIANCE FOR RETAIL ENERGY  
MARKETS, WESTERN POWER TRADING FORUM, MIRANT CALIFORNIA, LLC,  
MIRANT DELTA, LLC, AND MIRANT POTRERO, LLC, APS ENERGY SERVICES,  
AND ENERGY USERS FORUM ("JOINT PARTIES")  
FOR A STANDARDIZED RESOURCE ADEQUACY CONTRACT AND  
ASSOCIATED RESOURCE OBLIGATIONS**

via electronic mail to all parties on the service list R.05-12-013 who have provided the Commission with an electronic mail address and by First class mail on the parties listed as "Parties" and "State Service" on the attached service list who have not provided an electronic mail address.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that this declaration was executed on the date above at San Francisco, California.

\_\_\_\_\_  
/s/ Judy Pau  
Judy Pau



CALIFORNIA PUBLIC UTILITIES COMMISSION  
Service Lists

Proceeding: R0512013 - CPUC - OIR TO CONSID  
Filer: CPUC  
List Name: LIST  
Last changed: November 14, 2007

---

Parties

RANDALL PRESCOTT  
BP ENERGY COMPANY  
69 WINN STREET, FIRST FLOOR  
BURLINGTON, MA 01803

JAMES MCMAHON  
CRA INTERNATIONAL  
50 CHURCH ST.  
CAMBRIDGE, MA 02138

KATHRYN WIG  
PARALEGAL  
NRG ENERGY, INC.  
211 CARNEGIE CENTER  
PRINCETON, NY 08540

RICK C. NOGER  
PRAXAIR PLAINFIELD, INC.  
2711 CENTERVILLE ROAD, SUITE 400  
WILMINGTON, DE 19808

KEITH MCCREA  
ATTORNEY AT LAW  
SUTHERLAND, ASBILL & BRENNAN  
1275 PENNSYLVANIA AVENUE, NW  
WASHINGTON, DC 20004-2415

ADAM J. KATZ  
MCDERMOTT WILL & EMERY LLP  
600 13TH STREET, NW.  
WASHINGTON, DC 20005

MICHAEL A. YUFFEE  
MCDERMOTT WILL & EMERY LLP  
600 THIRTEENTH STREET, N.W.  
WASHINGTON, DC 20005-3096

BONNIE S. BLAIR  
ATTORNEY AT LAW  
THOMPSON COBURN LLP  
1909 K STREET, N.W., SUITE 600  
WASHINGTON, DC 20006

MARGARET E. MCNAUL  
ATTORNEY AT LAW  
THOMPSON COBURN LLP  
1909 K STREET, N.W., SUITE 600  
WASHINGTON, DC 20006

LISA DECKER  
COUNSEL  
CONSTELLATION ENERGY GROUP, INC.  
111 MARKET PLACE, SUITE 500  
BALTIMORE, MD 21202

DEREK BANDERA  
ENERGY, INC.  
1901 NORTH MOORE STREET  
ARLINGTON, VA 22209

GRETCHEN SCHOTT  
SENIOR COUNSEL  
RELIANT ENERGY, INC.  
1000 MAIN STREET  
HOUSTON, TX 77002

KEVIN BOUDREAUX  
CALPINE CORPORATION  
717 TEXAS AVE.  
HOUSTON, TX 77002

E.J. WRIGHT  
OCCIDENTAL POWER SERVICES, INC.  
5 GREENWAY PLAZA, SUITE 110  
HOUSTON, TX 77046

STEVE ISSER  
VP, GENERAL COUNSEL  
GOOD COMPANY ASSOCIATES  
816 CONGRESS AVE., SUITE 1400  
AUSTIN, TX 78701

STACY AGUAYO  
APS ENERGY SERVICES  
400 E. VAN BUREN STREET, SUITE 750  
PHOENIX, AZ 85004

ROBERT S. NICHOLS  
NEW WEST ENERGY  
MAILING STATION ISB 665  
PO BOX 61868  
PHOENIX, AZ 85082-1868

CURTIS KEBLER  
GOLDMAN, SACHS & CO.  
2121 AVENUE OF THE STARS  
LOS ANGELES, CA 90067

DENNIS M.P. EHRLING  
ATTORNEY AT LAW  
KIRKPATRICK & LOCKHART NICHOLSON GRAHAM  
10100 SANTA MONICA BLVD., 7TH FLOOR  
LOS ANGELES, CA 90067

MICHAEL MAZUR  
CHIEF TECHNICAL OFFICER  
3 PHASES RENEWABLES, LLC  
2100 SEPULVEDA BLVD., SUITE 37  
MANHATTAN BEACH, CA 90266

MIKE KASABA  
QUIET ENERGY  
3311 VAN ALLEN PLACE  
TOPANGA, CA 90290  
356

GREGORY S.G. KLATT  
ATTORNEY AT LAW  
DOUGLASS & LIDDELL  
411 E. HUNTINGTON DRIVE, SUITE 107-  
ARCADIA, CA 91007

DANIEL W. DOUGLASS  
ATTORNEY AT LAW  
DOUGLASS & LIDDELL  
21700 OXNARD STREET, SUITE 1030  
WOODLAND HILLS, CA 91367

FRANK ANNUNZIATO  
PRESIDENT  
AMERICAN UTILITY NETWORK INC.  
10705 DEER CANYON DR.  
ALTA LOMA, CA 91737-2483

LAURA GENAO  
ATTORNEY AT LAW  
SOUTHERN CALIFORNIA EDISON COMPANY  
LAW DEPARTMENT  
2244 WALNUT GROVE AVENUE

MICHAEL A. BACKSTROM  
ATTORNEY AT LAW  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770

ROSEMEAD, CA 91770

RONALD MOORE  
GOLDEN STATE WATER/BEAR VALLEY ELECTRIC  
630 EAST FOOTHILL BOULEVARD  
SAN DIMAS, CA 91773

KEITH SWITZER  
VP REGULATORY AFFAIRS  
GOLDEN STATE WATER COMPANY  
630 EAST FOOTHILL BLVD.  
SAN DIMAS, CA 91773-9016

G. ALAN COMNES  
NRG ENERGY, INC.  
1819 ASTON STREET, SUITE 105  
CARLSBAD, CA 92008

DANIEL A. KING  
SEMPRA ENERGY  
101 ASH STREET, HQ 12  
SAN DIEGO, CA 92101

DON P. GARBER  
SAN DIEGO GAS AND ELECTRIC COMPANY  
101 ASH STREET  
SAN DIEGO, CA 92101

LISA G. URICK  
ATTORNEY AT LAW  
SAN DIEGO GAS & ELECTRIC COMPANY  
101 ASH STREET, HQ-12  
SAN DIEGO, CA 92101

GREG BASS  
SEMPRA ENERGY SOLUTIONS  
101 ASH STREET. HQ09  
SAN DIEGO, CA 92101-3017

STEPHEN KEEHN  
SEMPRA ENERGY COPORATE CENTER  
101 ASH STREET-HQ13A  
SAN DIEGO, CA 92101-3017

THEODORE ROBERTS  
ATTORNEY AT LAW  
SEMPRA GLOBAL  
101 ASH STREET, HQ 13D  
SAN DIEGO, CA 92101-3017

THOMAS CORR  
SEMPRA GLOBAL  
101 ASH STREET, HQ 08 C  
SAN DIEGO, CA 92101-3017

TOM BILL  
SEMPRA ENERGY CORPORATE CENTER  
101 ASH STREET-HQ13A  
SAN DIEGO, CA 92101-3017

TOM BRILL  
SEMPRA ENERGY CORPORATE CENTER  
101 ASH STREET, HQ13A  
SAN DIEGO, CA 92101-3017

BILL LYONS  
CORAL POWER, LLC  
4445 EASTGATE MALL, SUITE 100  
520  
SAN DIEGO, CA 92121

REID A. WINTHROP  
PILOT POWER GROUP, INC.  
8910 UNIVERSITY CENTER LANE, SUITE  
SAN DIEGO, CA 92122

THOMAS DARTON  
PILOT POWER GROUP, INC.  
9320 CHESAPEAKE DRIVE, SUITE 112  
SAN DIEGO, CA 92123

DESPINA PAPAPOSTOLOU  
SAN DIEGO GAS AND ELECTRIC COMPANY  
8330 CENTURY PARK COURT-CP32H  
SAN DIEGO, CA 92123-1530

DAVID J. COYLE  
ANZA ELECTRIC COOPERATIVE, INC  
58470 HIGHWAY 371  
ANZA, CA 92539-1909

CRYSTAL NEEDHAM  
SENIOR DIRECTOR, COUNSEL  
EDISON MISSION ENERGY  
18101 VON KARMAN AVE., STE 1700  
IRVINE, DC 92612-1046

KURT DUVALL  
CITY OF CORONA  
DEPT. OF WATER AND POWER  
730 CORPORATION YARD WAY  
CORONA, CA 92880

MARC D. JOSEPH  
ATTORNEY AT LAW  
ADAMS, BROADWELL, JOSEPH & CARDOZO  
601 GATEWAY BLVD., STE. 1000  
SOUTH SAN FRANCISCO, CA 94080

MICHEL PETER FLORIO  
ATTORNEY AT LAW  
THE UTILITY REFORM NETWORK (TURN)  
711 VAN NESS AVENUE, SUITE 350  
SAN FRANCISCO, CA 94102

THERESA L. MUELLER  
DEPUTY CITY ATTORNEY  
CITY ATTORNEY'S OFFICE  
CITY HALL, ROOM 234  
SAN FRANCISCO, CA 94102

CHARLYN A. HOOK  
CALIF PUBLIC UTILITIES COMMISSION  
LEGAL DIVISION  
ROOM 4107  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

KAREN P. PAULL  
CALIF PUBLIC UTILITIES COMMISSION  
LEGAL DIVISION  
ROOM 4300  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

JIM HENDRY  
SAN FRANCISCO PUBLIC UTILITIES COMM.  
1155 MARKET STREET, 4TH FLOOR  
SAN FRANCISCO, CA 94103

EVELYN KAHL  
ATTORNEY AT LAW  
ALCANTAR & KAHL, LLP  
120 MONTGOMERY STREET, SUITE 2200  
SAN FRANCISCO, CA 94104

ROD AOKI  
ATTORNEY AT LAW  
ALCANTAR & KAHL, LLP  
120 MONTGOMERY STREET, SUITE 2200  
SAN FRANCISCO, CA 94104

SEEMA SRINIVASAN  
ATTORNEY AT LAW  
ALCANTAR & KAHL, LLP  
120 MONTGOMERY STREET, SUITE 2200  
SAN FRANCISCO, CA 94104

ARTHUR HAUBENSTOCK  
ATTORNEY AT LAW  
PACIFIC GAS AND ELECTRIC COMPANY  
77 BEALE STREET, B30A  
SAN FRANCISCO, CA 94105

BILL CHEN  
CONSTELLATION NEWENERGY, INC.  
SPEAR TOWER, 36HT FLOOR  
ONE MARKET STREET  
SAN FRANCISCO, CA 94105

EDWARD V. KURZ  
ATTORNEY AT LAW  
PACIFIC GAS AND ELECTRIC COMPANY  
DAY  
77 BEALE STREET  
SAN FRANCISCO, CA 94105

BRIAN T. CRAGG  
ATTORNEY AT LAW  
GOODIN MACBRIDE SQUERI RITCHIE &  
505 SANSOME STREET, SUITE 900  
SAN FRANCISCO, CA 94111

JAMES D. SQUERI  
ATTORNEY AT LAW  
GOODIN MACBRIDE SQUERI DAY & LAMPREY  
LAMPREY LLP  
505 SANSOME STREET, SUITE 900  
SAN FRANCISCO, CA 94111

JOSEPH F. WIEDMAN  
ATTORNEY AT LAW  
GOODIN MACBRIDE SQUERI DAY &  
505 SANSOME STREET, SUITE 900  
SAN FRANCISCO, CA 94111

KAREN E. BOWEN  
WINSTON & STRAWN LLP  
101 CALIFORNIA STREET, 39TH FLOOR  
SAN FRANCISCO, CA 94111

LISA A. COTTLE  
ATTORNEY AT LAW  
WINSTON & STRAWN LLP  
101 CALIFORNIA STREET, 39TH FLOOR  
SAN FRANCISCO, CA 94111

MICHAEL B. DAY  
ATTORNEY AT LAW  
GOODIN MACBRIDE SQUERI DAY & LAMPREY LLP  
505 SANSOME STREET, SUITE 900  
SAN FRANCISCO, CA 94111

JEFFREY P. GRAY  
ATTORNEY AT LAW  
DAVIS WRIGHT TREMAINE, LLP  
505 MONTGOMERY STREET, SUITE 800  
SAN FRANCISCO, CA 94111-6533

IRENE K. MOOSEN  
ATTORNEY AT LAW  
53 SANTA YNEZ AVENUE  
SAN FRANCISCO, CA 94112

ANDREA WELLER  
STRATEGIC ENERGY  
3130 D BALFOUR RD., SUITE 290  
BRENTWOOD, CA 94513

JENNIFER CHAMBERLIN  
STRATEGIC ENERGY, LLC  
2633 WELLINGTON CT.  
CLYDE, CA 94520

JOHN DUTCHER  
VICE PRESIDENT - REGULATORY AFFAIRS  
MOUNTAIN UTILITIES  
3210 CORTE VALENCIA  
FAIRFIELD, CA 94534-7875

ALEXANDRE B. MAKLER  
CALPINE CORPORATION  
3875 HOPYARD ROAD, SUITE 345  
PLEASANTON, CA 94588

LINDA Y. SHERIF  
ATTORNEY AT LAW  
CALPINE CORPORATION  
3875 HOPYARD ROAD, SUITE 345  
PLEASANTON, CA 94588

WILLIAM H. BOOTH  
ATTORNEY AT LAW  
LAW OFFICES OF WILLIAM H. BOOTH  
1500 NEWELL AVENUE, 5TH FLOOR  
WALNUT CREEK, CA 94596

PHILLIP J. MULLER  
SCD ENERGY SOLUTIONS  
436 NOVA ALBION WAY  
SAN RAFAEL, CA 94903

L. JAN REID  
COAST ECONOMIC CONSULTING  
3185 GROSS ROAD  
SANTA CRUZ, CA 95062

BARRY F. MCCARTHY  
ATTORNEY AT LAW  
MCCARTHY & BERLIN, LLP  
100 PARK CENTER PLAZA, SUITE 501  
SAN JOSE, CA 95113

JOY A. WARREN  
REGULATORY ADMINISTRATOR  
MODESTO IRRIGATION DISTRICT  
1231 11TH STREET  
MODESTO, CA 95354

JOHN R. REDDING  
ARCTURUS ENERGY CONSULTING  
44810 ROSEWOOD TERRACE  
MENDOCINO, CA 95460

JAMES WEIL  
DIRECTOR  
AGLET CONSUMER ALLIANCE  
PO BOX 37  
COOL, CA 95614

CAROLYN KEHREIN  
ENERGY MANAGEMENT SERVICES  
1505 DUNLAP COURT  
DIXON, CA 95620-4208

CATALIN MICSA  
CAISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

CYNTHIA HINMAN  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

JOHN JENSEN  
PRESIDENT  
AFFAIRS  
MOUNTAIN UTILITIES  
GROUP  
PO BOX 205

MARY LYNCH  
VP - REGULATORY AND LEGISLATIVE  
CONSTELLATION ENERGY COMMODITIES  
2377 GOLD MEDAL WAY, SUITE 100

KIRKWOOD, CA 95646

GOLD RIVER, CA 95670

ANDREW B. BROWN  
ATTORNEY AT LAW  
ELLISON, SCHNEIDER & HARRIS, LLP  
2015 H STREET  
SACRAMENTO, CA 95814

BRUCE MCLAUGHLIN  
ATTORNEY AT LAW  
BRAUN & BLAISING, P.C.  
915 L STREET SUITE 1420  
SACRAMENTO, CA 95814

CHARLES A. BRAUN  
ATTORNEY AT LAW  
RESOURCES  
BRAUN & BLAISING, P.C.,  
915 L STREET, STE. 1420  
SACRAMENTO, CA 95814

DAVID A. SANDINO  
CALIFORNIA DEPARTMENT OF WATER  
1416 9TH STREET RM 1118  
SACRAMENTO, CA 95814

JANE E. LUCKHARDT  
ATTORNEY AT LAW  
DOWNEY BRAND LLP  
555 CAPITOL MALL, 10TH FLOOR  
SACRAMENTO, CA 95814

JEDEDIAH GIBSON  
ATTORNEY  
ELLISON SCHNEIDER & HARRIS  
2015 H STREET  
SACRAMENTO, CA 95814

JEFFERY D. HARRIS  
ATTORNEY AT LAW  
ELLISON, SCHNEIDER & HARRIS LLP  
2015 H STREET  
SACRAMENTO, CA 95814

KEVIN WOODRUFF  
WOODRUFF EXPERT SERVICES, INC.  
1100 K STREET, SUITE 204  
SACRAMENTO, CA 95814

KRIS G. CHISHOLM  
CALIFORNIA ELECTRICITY OVERSIGHT BOARD  
770 L STREET, SUITE 1250  
SACRAMENTO, CA 95814

WILLIAM W. WESTERFIELD, III  
ATTORNEY AT LAW  
ELLISON, SCHNEIDER & HARRIS, LLP  
2015 H STREET  
SACRAMENTO, CA 95814

LEE TERRY  
CALIFORNIA DEPARTMENT OF WATER RESOURCES  
RESOURCES  
3310 EL CAMINO AVENUE  
SACRAMENTO, CA 95821

MICHAEL WERNER  
CALIFORNIA DEPARTMENT OF WATER  
3310 EL CAMINO AVE, LL90  
SACRAMENTO, CA 95821

DAN SILVERIA  
SURPRISE VALLEY ELECTRIC CORPORATION  
PO BOX 691

JESSICA NELSON  
PLUMAS-SIERRA RURAL ELECTRIC CO-OP  
PO BOX 2000

ALTURAS, CA 96101

73233 HIGHWAY 70 STE A  
PORTOLA, CA 96122-2000

DONALD BROOKHYSER  
ATTORNEY AT LAW  
ALCANTAR & KAHL LLP  
1300 S.W. 5TH AVENUE, SUITE 1750  
PORTLAND, OR 97201

ALAN COMNES  
WEST COAST POWER  
3934 SE ASH STREET  
PORTLAND, OR 97214

RYAN FLYNN  
ATTORNEY  
PACIFICORP  
825 NE MULTNOMAH, SUITE 1800  
PORTLAND, OR 97232

JEFF LAM  
MANAGER, MARKET ACCESS  
POWEREX CORP  
666 BURRARD STREET, SUITE 1400  
VANCOUVER, BC V6C 2X8  
CANADA

### Information Only

ROBERT STODDARD  
CRA INTERNATIONAL  
REGULATORY  
200 CLARENDON ST., T-32  
BOSTON, MA 02116

CHRISTOPHER C. O'HARA  
ASSISTANT GENERAL COUNSEL-

NRG ENERGY  
211 CARNEGIE CENTER DRIVE  
PRINCETON, NJ 08540

STEVEN S. SCHLEIMER  
DIRECTOR, COMPLIANCE & REGULATORY AFFAIRS  
BARCLAYS BANK, PLC  
200 PARK AVENUE, FIFTH FLOOR  
NEW YORK, NY 10166

STEVEN HUHMAN  
MORGAN STANLEY CAPITAL GROUP INC.  
2000 WESTCHESTER AVENUE  
PURCHASE, NY 10577

MICHAEL J. GERGEN  
LATHAM & WATKINS LLP  
SUITE 1000  
555 ELEVENTH STREET, NW  
WASHINGTON, DC 20004-1304

JOSEPH B. WILLIAMS  
MCDERMOTT WILL & EMERGY LLP  
600 THIRTEENTH STREET, N.W.  
WASHINGTON, DC 20005-3096

JENNIFER A. MORRISSEY  
CLEARY GOTTlieb STEEN & HAMILTON LLP  
2000 PENNSYLVANIA AVE., NW, SUITE 900  
WASHINGTON, DC 20006

JAMES MAYHEW  
MIRANT CORPORATION  
1155 PERIMETER CENTER WEST  
ATLANTA, GA 30338



RALPH E. DENNIS  
DIRECTOR, REGULATORY AFFAIRS  
FELLON-MCCORD & ASSOCIATES  
CONSTELLATION NEWENERGY-GAS DIVISION  
9960 CORPORATE CAMPUS DRIVE, STE 2000  
LOUISVILLE, KY 40223

BOB ANDERSON  
ENERGY ANALITICAL  
5255 COUNTY RD 139 SE  
STEWARTVILLE, MN 55976-8085

DOUGLAS MCFARLAN  
VP, PUBLIC AFFAIRS  
MIDWEST GENERATION EME  
INC.  
440 SOUTH LASALLE ST., SUITE 3500  
CHICAGO, IL 60605

JAMES ROSS  
THUMS  
REGULATORY & COGENERATION SERVICES,  
500 CHESTERFIELD CENTER, SUITE 320  
CHESTERFIELD, MO 63017

ANN HENDRICKSON  
COMMERCE ENERGY, INC.  
222 WEST LAS COLINAS BLVD., SUITE 950E  
IRVING, TX 75039

TRENT CARLSON  
VP, REGULATORY AFFAIRS  
RELIANT ENERGY, INC.  
1000 MAIN STREET  
HOUSTON, TX 77002

JULIE L. MARTIN  
WEST ISO COORDINATOR  
NORTH AMERICA GAS AND POWER  
BP ENERGY COMPANY  
501 WESTLAKE PARK BLVD.  
HOUSTON, TX 77079

STEVE KOERNER  
SENIOR CONSEL  
EL PASO CORPORATION  
2 NORTH NEVADA AVENUE  
COLORADO SPRINGS, CO 80903

WAYNE TOMLINSON  
EL PASO CORPORATION  
2 NORTH NEVADA AVENUE  
COLORADO SPRINGS, CO 80903

KATHLEEN ESPOSITO  
CRESTED BUTTE CATALYSTS LLC  
PO BOX 668  
CRESTED BUTTE, CO 81224

KEVIN J. SIMONSEN  
ENERGY MANAGEMENT SERVICES  
646 EAST THIRD AVENUE  
DURANGO, CO 81301

JENINE SCHENK  
APS ENERGY SERVICES  
400 E. VAN BUREN STREET, SUITE 750  
PHOENIX, AZ 85004

MARIO VILLAR  
SIERRA PACIFIC POWER COMPANY  
6226 W SAHARA AVENUE MS26  
LAS VEGAS, NV 89146

CHRISTOPHER A. HILEN  
ASSISTANT GENERAL COUNSEL  
SIERRA PACIFIC POWER COMPANY  
6100 NEIL ROAD  
RENO, NV 89511

ELENA MELLO  
SIERRA PACIFIC POWER COMPANY  
6100 NEIL ROAD  
RENO, NV 89520

TREVOR DILLARD  
SIERRA PACIFIC POWER COMPANY  
PO BOX 10100  
6100 NEIL ROAD, MS S4A50  
RENO, NV 89520

GURCHARAN BAWA  
DIRECTOR - POWER SUPPLY  
PASADENA WATER AND POWER  
150 S. LOS ROBLES, SUITE 200  
PASADENA, CA 91101

HSI BANG TANG  
AZUSA LIGHT, POWER & WATER  
729 N. AZUSA AVENUE  
AZUSA, CA 91702-9500

MICHAEL TEN EYCK  
CITY OF RANCHO CUCAMONGA  
10500 CIVIC CENTER DRIVE  
RANCHO CUCAMONGA, CA 91730

AKBAR JAZAYEIRI  
DIRECTOR OF REVENUE & TARRIFFS  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVE. ROOM 390  
ROSEMEAD, CA 91770

CASE ADMINISTRATION  
SOUTHERN CALIFORNIA EDISON COMPANY  
LAW DEPARTMENT  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770

DONALD C. LIDDELL  
ATTORNEY AT LAW  
DOUGLASS & LIDDELL  
2928 2ND AVENUE  
SAN DIEGO, CA 92103

MICHAEL SHAMES  
ATTORNEY AT LAW  
UTILITY CONSUMERS' ACTION NETWORK  
3100 FIFTH AVENUE, SUITE B  
SAN DIEGO, CA 92103

KIM KIENER  
504 CATALINA BLVD.  
SAN DIEGO, CA 92106

KIMBERLY KIENER  
IMPERIAL IRRIGATION DISTRICT  
504 CATALINA BLVD.  
SAN DIEGO, CA 92106

MARCIE MILNER  
CORAL ENERGY RESOURCES, L P  
4445 EASTGATE MALL, SUITE 100  
SAN DIEGO, CA 92121

MIKE EVANS  
CORAL PWER, LLC  
4445 EASTGATE MALL, SUITE 100  
SAN DIEGO, CA 92121

CENTRAL FILES  
SAN DIEGO GAS AND ELECTRIC COMPANY  
8330 CENTURY PARK COURT, CP31E  
SAN DIEGO, CA 92123

PAMELA J. MILLS

RANDY NICHOLSON

SAN DIEGO GAS & ELECTRIC  
8330 CENTURY PARK COURT, CP32H  
SAN DIEGO, CA 92123

FERC/CAISO REGULATORY AFFAIRS  
SAN DIEGO GAS & ELECTRIC  
8830 CENTURY PARK COURT, CP32H  
SAN DIEGO, CA 92123

CENTRAL FILES  
SAN DIEGO GAS AND ELECTRIC COMPANY  
8330 CENTURY PARK COURT-CP31E  
SAN DIEGO, CA 92123-1530

DESPINA NIEHAUS  
SAN DIEGO GAS AND ELECTRIC COMPANY  
8330 CENTURY PARK COURT, CP32H  
SAN DIEGO, CA 92123-1530

JOHN W. LESLIE  
ATTORNEY AT LAW  
ADMINISTRATOR  
LUCE, FORWARD, HAMILTON & SCRIPPS, LLP  
11988 EL CAMINO REAL, SUITE 200  
SAN DIEGO, CA 92130

FRED MASON  
POWER RESOURCE & REVENUE  
  
CITY OF BANNING  
176 EAST LINCOLN  
BANNING, CA 92220

TRACEY DRABANT  
ENERGY RESOURCE MANAGER  
BEAR VALLEY ELECTRIC SERVICE  
PO BOX 1547  
BIG BEAR LAKE, CA 92315-1547

JEANNETTE OLKO  
ELECTRIC UTILITY DIRECTOR  
COLTON ELECTRIC DEPARTMENT  
650 NORTH LA CADENA DRIVE  
COLTON, CA 92324

LEEANNE UHLER  
CITY OF RIVERSIDE  
2911 ADAMS STREET  
RIVERSIDE, CA 92504

CRAIG MARTIN  
CALPINE CORPORATION  
19100 VISTA DE MONTANAS  
MURRIETA, CA 92562

DAVID X. KOLK  
COMPLETE ENERGY SERVICES INC  
41422 MAGNOLIA STREET  
MURRIETA, CA 92562

LAWRENCE KOSTRZEWA  
REGIONAL VP, DEVELOPMENT  
EDISON MISSION ENERGY  
18101 VON KARMAN AVE., STE 1700  
IRVINE, CA 92612-1046

PHILIP HERRINGTON  
REGIONAL VP, BUSINESS MANAGEMENT  
EDISON MISSION ENERGY  
18101 VON KARMAN AVENUE, STE 1700  
IRVINE, CA 92612-1046

STEPHEN J. SCIORTINO  
INTEGRATED RESOURCES MANAGER  
CITY OF ANAHEIM  
PUBLIC UTILITIES DEPARTMENT  
201 SOUTH ANAHEIM BLVD., SUITE 802  
ANAHEIM, CA 92805

SUE MARA

DIANE I. FELLMAN

RTO ADVISORS, LLC.  
164 SPRINGDALE WAY  
REDWOOD CITY, CA 94062

ATTORNEY AT LAW  
FPL ENERGY, LLC  
234 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102

MANUEL RAMIREZ  
CITY AND COUNTY OF SAN FRANCISCO  
1155 MARKET STREET, 4TH FLOOR  
SAN FRANCISCO, CA 94103

DEVRA WANG  
NATURAL RESOURCES DEFENSE COUNCIL  
111 SUTTER STREET, 20TH FLOOR  
SAN FRANCISCO, CA 94104

KAREN TERRANOVA  
ALCANTAR & KAHL, LLP  
120 MONTGOMERY STREET, STE 2200  
SAN FRANCISCO, CA 94104

SETH D. HILTON  
STOEL RIVES  
111 SUTTER ST., SUITE 700  
SAN FRANCISCO, CA 94104

CARMEN BASKETTE  
ENERNOC, INC.  
594 HOWARD STREET, SUITE 400  
SAN FRANCISCO, CA 94105

RICHARD H. COUNIHAN  
SR. DIRECTOR CORPORATE DEVELOPMENT  
ENERNOC, INC.  
594 HOWARD ST., SUITE 400  
SAN FRANCISCO, CA 94105

SARA O'NEILL  
VP - REGULATORY AND GOVERNMENT AFFAIRS  
CONSTELLATION NEW ENERGY, INC.  
SPEAR TOWER, 36TH FLOOR  
ONE MARKET STREET  
SAN FRANCISCO, CA 94105

VALERIE WINN  
PROJECT MANAGER  
PACIFIC GAS & ELECTRIC  
77 BEALE STREET, B9A  
SAN FRANCISCO, CA 94105

BRIAN K. CHERRY  
DIRECTOR REGULATORY RELATIONS  
PACIFIC GAS AND ELECTRIC COMPANY  
77 BEALE STREET, B10C  
SAN FRANCISCO, CA 94106

CALIFORNIA ENERGY MARKETS  
517-B POTRERO AVENUE  
SAN FRANCISCO, CA 94110

JANINE L. SCANCARELLI  
ATTORNEY AT LAW  
FOLGER, LEVIN & KAHN, LLP  
275 BATTERY STREET, 23RD FLOOR  
SAN FRANCISCO, CA 94111

JUDY PAU  
DAVIS WRIGHT TREMAINE LLP  
505 MONTGOMERY STREET, SUITE 800  
SAN FRANCISCO, CA 94111-6533

LISA WEINZIMER  
ASSOCIATE EDITOR

ANDREW L. HARRIS  
PACIFIC GAS & ELECTRIC COMPANY

PLATTS MCGRAW-HILL  
695 NINTH AVENUE, NO. 2  
SAN FRANCISCO, CA 94118

PO BOX 770000 MAIL CODE B9A  
SAN FRANCISCO, CA 94177

BIANCA BOWMAN  
PACIFIC GAS AND ELECTRIC COMPANY  
PG&E MAIL CODE B9A  
PO BOX 770000  
SAN FRANCISCO, CA 94177

ED LUCHA  
CASE COORDINATOR  
PACIFIC GAS AND ELECTRIC COMPANY  
PO BOX 770000, MAIL CODE B9A  
SAN FRANCISCO, CA 94177

GRACE LIVINGSTON-NUNLEY  
ASSISTANT PROJECT MANAGER  
PACIFIC GAS AND ELECTRIC COMPANY  
PO BOX 770000 MAIL CODE B9A  
SAN FRANCISCO, CA 94177

PATRICIA GIDEON  
PACIFIC GAS AND ELECTRIC COMPANY  
PG&E, MAIL CODE B9A  
PO BOX 770000  
SAN FRANCISCO, CA 94177

RAYMOND HUNG  
PG&E  
PO BOX 770000 MAIL CODE B9A  
SAN FRANCISCO, CA 94177

SEBASTIEN CSAPO  
PROJECT MANAGER  
PACIFIC GAS AND ELECTRIC COMPANY  
MAIL CODE B9A  
PO BOX 770000  
SAN FRANCISCO, CA 94177

SOUMYA SASTRY  
PACIFIC GAS AND ELECTRIC COMPANY  
MAIL CODE B9A  
PO BOX 770000  
SAN FRANCISCO, CA 94177

STEPHANIE LA SHAWN  
PACIFIC GAS AND ELECTRIC COMPANY  
PO BOX 770000, MAIL CODE B9A  
SAN FRANCISCO, CA 94177

DEBRA LLOYD  
CITY OF PALO ALTO  
250 HAMILTON AVE.  
PALO ALTO, CA 94301

ROBIN J. WALTHER, PH.D.  
1380 OAK CREEK DRIVE., 316  
PALO ALTO, CA 94305

CLAUDIA GREIF  
3144 ALANHILL LANE  
SAN MATEO, CA 94403

KENNETH E. ABREU  
853 OVERLOOK COURT  
SAN MATEO, CA 94403

NICOLAS PROCOS  
ALAMEDA POWER & TELECOM  
2000 GRAND STREET

MARK J. SMITH  
FPL ENERGY  
3195 DANVILLE BLVD, STE 201

ALAMEDA, CA 94501-0263

ALAMO, CA 94507

BARRY R. FLYNN  
FLYNN RESOURCE CONSULTANTS, INC.  
5440 EDGEVIEW DRIVE  
DISCOVERY BAY, CA 94514

BETH VAUGHAN  
CALIFORNIA COGENERATION COUNCIL  
4391 N. MARSH ELDER COURT  
CONCORD, CA 94521

KERRY HATTEVIK  
MIRANT CORPORATION  
696 WEST 10TH STREET  
PITTSBURG, CA 94565

GREGORY T. BLUE  
ENXCO DEVELOPMENT CORP.  
5000 EXEXUTIVE PARKWAY, STE. 140  
SAN RAMON, CA 94583

AVIS KOWALEWSKI  
DIRECTOR OF REGULATORY AFFAIRS  
CALPINE CORPORATION  
3875 HOPYARD ROAD, SUITE 345  
PLEASANTON, CA 94588

PATRICIA THOMPSON  
SUMMIT BLUE CONSULTING  
2920 CAMINO DIABLO, SUITE 210  
WALNUT CREEK, CA 94597

PHILIPPE AUCLAIR  
11 RUSSELL COURT  
WALNUT CREEK, CA 94598

OFFICE OF THE PRESIDENT  
UNIVERSITY OF CALIFORNIA  
1111 FRANKLIN STREET, 6TH FLOOR  
OAKLAND, CA 94607

OFFICE OF THE PRESIDENT  
UNIVERSITY OF CALIFORNIA  
1111 FRANKLIN STREET, 6TH FLOOR  
OAKLAND, CA 94607

OFFICE OF THE PRESIDENT  
UNIVERSITY OF CALIFORNIA  
1111 FRANKLIN STREET, 6TH FLOOR  
OAKLAND, CA 94607

DIRK A. VAN ULDEN  
OFFICE OF THE PRESIDENT  
UNIVERSITY OF CALIFORNIA  
1111 FRANKLIN STREET, ROOM 6207  
OAKLAND, CA 94607

MRW & ASSOCIATES, INC.  
1814 FRANKLIN STREET, SUITE 720  
OAKLAND, CA 94612

DAVID MARCUS  
PO BOX 1287  
BERKELEY, CA 94701

REED V. SCHMIDT  
VICE PRESIDENT  
BARTLE WELLS ASSOCIATES  
1889 ALCATRAZ AVENUE

BERKELEY, CA 94703

NANCY RADER  
CALIFORNIA WIND ENERGY ASSOCIATION  
2560 NINTH STREET, SUITE 213A  
BERKELEY, CA 94710

CARLA PETERMAN  
UCEI  
2547 CHANNING WAY  
BERKELEY, CA 94720

SHMUEL S. OREN  
PROFESSOR OF INDUSTRIAL ENGINEERING  
UNIVERSITY OF CALIFORNIA AT BERKELEY  
ETCHEVERRY HALL 4119  
BERKELEY, CA 94720-1777

KEN SIMS  
ELECTRIC DIVISION MANAGER  
SILICON VALLEY POWER  
1601 CIVIC CENTER DR. NO. 201  
SANTA CLARA, CA 95050

CARL PECHMAN  
POWER ECONOMICS  
901 CENTER STREET  
SANTA CRUZ, CA 95060

C. SUSIE BERLIN  
ATTORNEY AT LAW  
MC CARTHY & BERLIN, LLP  
100 PARK CENTER PLAZA, SUITE 501  
SAN JOSE, CA 95113

ROGER VANHOY  
MSR PUBLIC POWER AGENCY  
1231 11TH STREET  
MODESTO, CA 95352

THOMAS S KIMBALL  
MODESTO IRRIGATION DISTRICT  
1231 11TH STREET  
MODESTO, CA 95352-4060

BARBARA R. BARKOVICH  
BARKOVICH & YAP, INC.  
44810 ROSEWOOD TERRACE  
MENDOCINO, CA 95460

DAVID E. MORSE  
1411 W. COVELL BLVD., SUITE 106-292  
DAVIS, CA 95616-5934

LEGAL & REGULATORY DEPARTMENT  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

ANNA MCKENNA  
LEGAL AND REGULATORY  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

ANTHONY J. IVANCOVICH  
LEGAL AND REGULATORY  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

BOB EMMERT  
SR. LOADS & RESOURCES ENGINEER  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

DAVID WITHROW  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

GRANT A. ROSENBLUM  
STAFF COUNSEL  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

JOHN GOODIN  
CALIFORNIA ISO  
MARKET & PRODUCT DEVELOPMENT  
OPERATOR  
151 BLUE RAVINE RD.  
FOLSOM, CA 95630

KEITH JOHNSON  
SENIOR MARKET&PRODUCT DEVELOPER  
CALIFORNIA INDEPENDENT SYSTEM  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

KEONI ALMEIDA  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR  
151 BLUE RAVINE RD.  
FOLSOM, CA 95630

LORENZO KRISTOV  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

PHILIP D. PETTINGILL  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

ROBIN SMUTNY-JONES  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

SAEED FARROKHPAY  
FEDERAL ENERGY REGULATORY COMMISSION  
CORPORATION  
110 BLUE RAVINE RD., SUITE 107  
FOLSOM, CA 95630

DENINIS DE CUIR  
DENNIS W. DE CUIR, A LAW  
2999 DOUGLAS BOULEVARD, SUITE 325  
ROSEVILLE, CA 95661

DAVID BRANCHCOMB  
BRANCHCOMB ASSOCIATES, LLC  
9360 OAKTREE LANE  
ORANGEVILLE, CA 95662

BRIAN THEAKER  
WILLIAMS POWER COMPANY  
3161 KEN DEREK LANE  
PLACERVILLE, CA 95667

KENNY SWAIN  
NAVIGANT CONSULTING  
3100 ZINFANDEL DRIVE, SUITE 600  
RANCHO CORDOVA, CA 95670

KIRBY DUSEL  
NAVIGANT CONSULTING, INC.  
3100 ZINFANDEL DRIVE, SUITE 600  
RANCHO CORDOVA, CA 95670



ERIC OLSON  
NAVIGANT CONSULTING INC.  
DESIGN  
3100 ZINFANDEL DR., STE 600  
RANCHO CORDOVA, CA 95670-6078

LES PEREIRA  
DIRECTOR, TRANSMISSION PLANNING &  
NORTHERN CALIFORNIA POWER AGENCY  
180 CIRBY WAY  
ROSEVILLE, CA 95678

SCOTT TOMASHEFSKY  
NORTHERN CALIFORNIA POWER AGENCY  
180 CIRBY WAY  
ROSEVILLE, CA 95678-6420

TONY ZIMMER  
180 CIRBY WAY  
ROSEVILLE, CA 95678-6420

ED CHANG  
FLYNN RESOURCE CONSULTANTS, INC.  
2165 MOONSTONE CIRCLE  
EL DORADO HILLS, CA 95762

GARY DESHAZO  
REGIONAL TRANSMISSION MANAGER  
CALIFORNIA ISO  
PO BOX 639014  
FOLSOM, CA 95763-9014

AUDRA HARTMANN  
DYNEGY, INC.  
980 NINTH STREET, SUITE 2130  
SACRAMENTO, CA 95814

JUSTIN C. WYNNE  
BRAUN & BLAISING, P.C.  
915 L STREET, SUITE 1270  
SACRAMENTO, CA 95814

RACHEL MCMAHON  
CEERT  
1100 11TH STREET, SUITE 311  
SACRAMENTO, CA 95814

SCOTT BLAISING  
ATTORNEY AT LAW  
BRAUN & BLAISING, P.C.  
915 L STREET, STE. 1270  
SACRAMENTO, CA 95814

STEVEN KELLY  
POLICY DIRECTOR  
INDEPENDENT ENERGY PRODUCERS ASSN  
1215 K STREET, SUITE 900  
SACRAMENTO, CA 95814

VICKI E. FERGUSON  
BRAUN & BLAISING P.C.  
915 L STREET, SUITE 1420  
SACRAMENTO, CA 95814

LYNN M. HAUG  
ATTORNEY AT LAW  
ELLISON & SCHNEIDER  
RESOURCES

HOLLY B. CRONIN  
STATE WATER PROJECT OPERATIONS DIV  
CALIFORNIA DEPARTMENT OF WATER

2015 H STREET  
SACRAMENTO, CA 95814-3109

3310 EL CAMINO AVE., LL-90  
SACRAMENTO, CA 95821

KATIE KAPLAN  
INTEGRATED ENERGY SOLUTIONS LLC  
2701 DEL PASO ROAD, SUITE 130-304  
SACRAMENTO, CA 95835

KAREN A. LINDH  
LINDH & ASSOCIATES  
7909 WALERGA ROAD, NO. 112, PMB 119  
ANTELOPE, CA 95843

CATHIE ALLEN  
CA STATE MGR.  
PACIFICORP  
825 NE MULTNOMAH STREET, SUITE 2000  
PORTLAND, OR 97232

DONALD SCHOENBECK  
RCS, INC.  
900 WASHINGTON STREET, SUITE 780  
VANCOUVER, WA 98660

JESUS ARREDONDO  
NRG ENERGY INC.  
4600 CARLSBAD BLVD.  
CARLSBAD, CA 99208

GIFFORD JUNG  
TRADE POLICY  
POWEREX CORPORATION  
666 BURRARD STREET, SUITE 1400  
VANCOUVER, BC V6C 2X8  
CANADA

### State Service

FRED MOBASHERI  
ELECTRIC POWER GROUP  
201 S. LAKE AVE., SUITE 400  
PASADENA, CA 91101

ANDREW CAMPBELL  
CALIF PUBLIC UTILITIES COMMISSION  
EXECUTIVE DIVISION  
ROOM 5203  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

ARAM SHUMAVON  
CALIF PUBLIC UTILITIES COMMISSION  
ENERGY DIVISION  
AREA 4-A  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

BISHU CHATTERJEE  
CALIF PUBLIC UTILITIES COMMISSION  
RATEMAKING BRANCH  
AREA 3-E  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

DONALD J. BROOKS  
CALIF PUBLIC UTILITIES COMMISSION  
ENERGY DIVISION  
BRANCH  
AREA 4-A  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

DONNA J. HINES  
CALIF PUBLIC UTILITIES COMMISSION  
ELECTRICITY RESOURCES & PRICING  
ROOM 4102  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

ELIZABETH DORMAN

ELIZABETH STOLTZFUS

CALIF PUBLIC UTILITIES COMMISSION  
LEGAL DIVISION  
ROOM 4300  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

CALIF PUBLIC UTILITIES COMMISSION  
ENERGY DIVISION  
AREA 4-A  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

FARZAD GHAZZAGH  
CALIF PUBLIC UTILITIES COMMISSION  
ELECTRICITY RESOURCES & PRICING BRANCH  
ROOM 4209  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

JOE COMO  
CALIF PUBLIC UTILITIES COMMISSION  
LEGAL DIVISION  
ROOM 5033  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

KATHRYN AURIEMMA  
CALIF PUBLIC UTILITIES COMMISSION  
RATEMAKING BRANCH  
AREA 4-A  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

KEVIN R. DUDNEY  
CALIF PUBLIC UTILITIES COMMISSION  
ENERGY DIVISION  
AREA 4-A  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

LAURENCE CHASET  
CALIF PUBLIC UTILITIES COMMISSION  
LEGAL DIVISION  
JUDGES  
ROOM 5131  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

MARK S. WETZELL  
CALIF PUBLIC UTILITIES COMMISSION  
DIVISION OF ADMINISTRATIVE LAW  
  
ROOM 5009  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

MATTHEW DEAL  
CALIF PUBLIC UTILITIES COMMISSION  
EXECUTIVE DIVISION  
ROOM 5215  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

MELISSA SEMCER  
CALIF PUBLIC UTILITIES COMMISSION  
ENERGY DIVISION  
AREA 4-A  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

NANCY RYAN  
CALIF PUBLIC UTILITIES COMMISSION  
EXECUTIVE DIVISION  
BRANCH  
ROOM 5217  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

RAHMON MOMOH  
CALIF PUBLIC UTILITIES COMMISSION  
ELECTRICITY RESOURCES & PRICING  
  
ROOM 4205  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

ROBERT L. STRAUSS  
CALIF PUBLIC UTILITIES COMMISSION  
ENERGY DIVISION  
AREA 4-A  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

SIMON BAKER  
CALIF PUBLIC UTILITIES COMMISSION  
ENERGY DIVISION  
AREA 4-A  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

SUDHEER GOKHALE  
CALIF PUBLIC UTILITIES COMMISSION  
ELECTRICITY RESOURCES & PRICING BRANCH  
ROOM 4209  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

TRACI BONE  
CALIF PUBLIC UTILITIES COMMISSION  
LEGAL DIVISION  
ROOM 5206  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214

ANNA MCKENNA  
LEGAL AND REGULATORY  
CALIFORNIA ISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

CONSTANCE PARR LENI  
CALIFORNIA ENERGY COMMISSION  
MS-20  
1516 NINTH ST  
SACRAMENTO, CA 95814

LANA WONG  
CALIFORNIA ENERGY COMMISSION  
1516 NINTH ST., MS-20  
SACRAMENTO, CA 95814

LYNN MARSHALL  
CALIFORNIA ENERGY COMMISSION  
1516 NINTH STREET, MS-22  
SACRAMENTO, CA 95814

MARC PRYOR  
CALIFORNIA ENERGY COMMISSION  
1516 9TH ST, MS 20  
SACRAMENTO, CA 95814

MIKE JASKE  
CALIFORNIA ENERGY COMMISSION  
1516 NINTH STREET, MS-22  
SACRAMENTO, CA 95814

MIKE RINGER  
CALIFORNIA ENERGY COMMISSION  
1516 NINTH STREET, MS-20  
SACRAMENTO, CA 95814

NANCY TRONAAS  
CALIFORNIA ENERGY COMMISSION  
1516 9TH ST. MS-20  
SACRAMENTO, CA 95814-5512

CHARLES MEE  
CHIEF TRANSMISSION MARKET SECTION  
DIVISION  
CALIFORNIA DEPARTMENT OF WATER RESOURCES  
3310 EL CAMINO AVENUE, LL90  
SACRAMENTO, CA 95821

IRYNA KWASNY  
DEPT. OF WATER RESOURCES-CERS  
3310 EL CAMINO AVE., STE.120  
SACRAMENTO, CA 95821

JACQUELINE GEORGE  
CALIFORNIA ENERGY RESOURCES SCHEDULING  
CALIFORNIA DEPARTMENT OF WATER RESOURCES  
3310 EL CAMINO AVE, RM. 120  
SACRAMENTO, CA 95821

JOHN PACHECO  
CA DEPT. OF WATER RESOURCES  
3310 EL CAMINO AVENUE, SUITE 120  
SACRAMENTO, CA 95821

